ENVIRONMENTAL ASSESSMENT

for

"DESTIN 4TH OF JULY FIREWORKS AND BEACH CLEANUP"

(RCS 08-092)

Prepared by Environmental Analysis Section
Stewardship Branch
Environmental Management Division
96 Civil Engineer Group
96 Air Base Wing

Report Documentation Page

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FINDING OF NO SIGNIFICANT IMPACT
Destin 4th of July Fireworks and Beach Cleanup
RCS 08-092

INTRODUCTION
Pursuant to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (40 Code of Federal Regulations 1500-1508), and 32 CFR Part 989, the Department of the Air Force has conducted an Environmental Assessment (EA) of the probable environmental consequences of granting a 5-year license to the City of Destin to conduct 4th of July fireworks displays and subsequent beach cleanup activities from 2008 – 2012.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVE

Proposed Action: The proposed action is to grant a 5-year license for the City of Destin to conduct 4th of July Fireworks Displays at the east end of Santa Rosa Island at the base of the west jetty. The proposed action would involve a pyrotechnic display in the evening on the 4th of July, 2008 – 2012, followed by a beach cleanup. All mitigations identified by Eglin's Natural Resources Section, including those identified under an informal consultation with the US Fish and Wildlife Service (USFWS) would be followed in order to minimize potential impacts.

No Action Alternative: The no action alternative is not to issue the license as requested. The fireworks display would not occur on Eglin AFB property.

SUMMARY OF THE ANTICIPATED ENVIRONMENTAL EFFECTS

Physical Features

Landforms
Dunes provide important structure to various flora and fauna on Santa Rosa Island and avoiding physical impacts to dunes is essential to minimizing impacts. Dunes in the project area are protected by pole and cable fencing and signage. Additionally, security forces on scene will enforce these structures in order to keep spectators from walking on and potentially damaging these sensitive landforms. Due to these dune avoidance measures, these important landforms and the vegetation inhabiting them should not be impacted by the proposed action.

Air Quality
Due to the specific treatment of fireworks displays by the USEPA and FDEP as "exceptional events", whose emissions are excludable from monitoring data, the proposed action will not impact air quality.

Acoustics and Light Effects
Acoustics and light effects were evaluated in terms of their potential to physically impair humans and wildlife as well as cause behavioral disturbances to wildlife. Results from an in-depth study

of fireworks impacts to wildlife conducted in California in 2001 were used to assess potential impacts of the proposed action. Given the frequency, duration, and intensity of sounds resulting from fireworks displays (maximum measured 82 decibels for larger aerial shells) that wildlife may be exposed to, it is unlikely that they would sustain temporary, much less permanent, hearing impairment during fireworks displays. Additionally, because wildlife, including foraging and nesting species, tend to evacuate the area at the start of fireworks displays and tend to return by the following morning, the proposed action is not likely to adversely impact wildlife behavior patterns.

Biological Resources

In accordance with the Endangered Species Act, an informal Section 7 consultation with the US Fish and Wildlife Service has been conducted. Eglin has agreed to comply with the Avoidance and Minimization measures set forth in the Biological Assessment and will adhere to state guidelines for the protection of nesting shorebirds as recommended in the USFWS Biological Opinion. All associated documents can be found appended to the EA. Additionally, concurrence with a Coastal Zone Management Act negative determination has been obtained and is appended to the EA.

Human-Related Concerns

Safety

During the fireworks display, uniformed police officers and event staff will be on scene to secure the launch point from unauthorized personnel. This should prevent children or the general public from entering the launch area. Law enforcement, which will be stationed at each of the public access points, will also be authorized to enforce traffic violations, which will minimize impacts to pedestrian safety.

Should the fireworks display be approved, it will be staffed by personnel trained in emergency procedures (e.g. first aid providers). This will be more conducive to public safety in the event of an emergency, whether on land or in the water.

Socioeconomics

Socioeconomic impacts of the proposed action would be primarily beneficial by enabling Independence Day celebrations to occur. Celebration of Independence Day is a widespread cultural event in the U.S. and this particular celebration has come to be expected within the local community. If the event were not to occur, a negative impact to morale and the potential for strained relations between Eglin Air Force Base and the surrounding community would likely be realized.

Negative socioeconomic impacts would be highly localized, both spatially and temporally. These include congested traffic and annoyance to users of the beach who do not support the event. Due to their spatial and temporal confinement, these potential impacts are not likely to have a marked impact on the socioeconomics of the study area.

PUBLIC REVIEW: A notice of the availability of the EA was published in the *Northwest Florida Daily News* on 9 May 2008. A 15-day comment period for public review of this EA ended on 27 May 2008. No comments were received for this action.

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and the environmental analysis contained in the attached EA and as summarized above, I find the proposed decision of the Air Force to grant a 5-year license to the City of Destin to conduct 4th of July fireworks displays and subsequent beach cleanup activities from 2008 – 2012 will not have a significant impact on the human or natural environment; therefore, an environmental impact statement is not required. This analysis fulfills the requirements of the National Environmental Policy Act, the President's Council on Environmental Quality, and CFR Part 989.

DENNIS D. YATES, Colonel, USAF
Commander, 96th Civil Engineer Group

11 JUN 08
Date

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LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

7SFG(A)	7th Special Forces Group, Airborne
96 CEG/CEAR	96th Civil Engineer Group/Real Property
96 CEG/CEVSP	96th Civil Engineer Group/Environmental Management Division, Stewardship Branch, Analysis Section
96 CEG/CEVSNW	96th Civil Engineer Group/Environmental Management Division, Stewardship Branch, Natural Resources Section, Wildlife Element
AGL	Above Ground Level
AL	Alabama
AFB	Air Force Base
AoC	Area of Concern
BO	Biological Opinion
BRAC	Base Realignment and Closure
cm	centimeters
C	Federal Candidate
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CoC	Community of Comparison
CT	Eglin/FNAI Conservation Target
CZMA	Coastal Zone Management Act
dB	decibels

EIAP	Environmental Impact Analysis Process
EO	Executive Order
EA	Environmental Assessment
ESA	Endangered Species Act
et al.	*et alli* (Latin: "and others")
FCMP	Florida Coastal Management Program
FDEP	Florida Department of Environmental Protection
FE	Federally Endangered
FL	Florida
FNAI	Florida Natural Areas Inventory
FT	Federally Threatened
ft	foot
ft2	square foot
GIS	Geographic Information System
Hwy	Highway
in	inch
JSF	Joint Strike Fighter
km	kilometer
m	meter
MBNMS	Monterey Bay National Marine Sanctuary
MHWL	Mean High Water Level
MMPA	Marine Mammal Protection Act
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Act
NOAA	National Oceanic and Atmospheric Administration
NRS	Natural Resources Section
PTS	Permanent (auditory) Threshold Shift
RCS	Report Control System
SAIC	Science Applications International Corporation
SE	State Endangered
SPL	Sound Pressure Level
SRI	Santa Rosa Island
SSC	State Species of Special Concern
ST	State Threatened
TN	Tennessee
TTS	Temporary (auditory) Threshold Shift
U.S.	United States
USACE	US Army Corps of Engineers
USCG	US Coast Guard
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
yd^3	cubic yard

1 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The City of Destin has requested that Eglin Air Force Base (AFB) extend their annual 4th of July fireworks license through 2012. The license grants permission to use the east end of Santa Rosa Island (SRI) at the base of the West Jetty as the launch site for the fireworks display. This is a renewal of a 5-year license that expired in 2007.

1.2 RELATED ENVIRONMENTAL DOCUMENTS

- "Draft Final Environmental Assessment (EA) to Preserve Santa Rosa Island (SRI) Mission Capabilities" (Report Control Symbol (RCS)# 05-187), March 2008
- Eglin AFB Integrated Natural Resources Management Plan (INRMP) – U.S. Air Force, September 2007
- Eglin AFB Threatened and Endangered Species Management Plan – U.S. Air Force, November 2006
- Environmental Assessment, "Community Beach Center" (RCS# 04-899 & 05-350), 19 December 2005
- Programmatic Environmental Assessment, "Santa Rosa Island Mission Utilization Plan" (RCS# 97-046 & 99-424), March 2005
- Eglin AFB Beach Management Plan – U.S. Air Force, January 2005
- Five-Year License to City of Destin for Fourth of July Fireworks, 813 RCS# 01-747, 27 May 2002
- Environmental Baseline Survey, "City of Destin, FL, October 1998 Seafood Festival Fireworks Display on Eglin Property Adjacent to East Pass West Jetty" (RCS# 98-427), 30 September 1998

1.3 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

Issues within the context of this document are the general categories used to distinguish the potential environmental impacts of actions described in the alternatives on identified resource areas. The initial environmental review of this proposal by the Environmental Impact Analysis Process (EIAP) interdisciplinary team at Eglin AFB considered the following issues:

- Air Quality
- Biological Resources
- Cultural Resources
- Environmental Justice
- Hazardous Materials/Waste
- Land Use
- Noise
- Physical Resources
- Safety/Restricted Access
- Socioeconomics
- Soils
- Water Quality

The issues remaining after the initial EIAP interdisciplinary team review were Physical Features (Landforms and Air Quality), Noise, Biological Resources (Sensitive Habitats and Sensitive Species), and Human-Related Concerns (Safety and Socioeconomics). All other issues were subsequently eliminated from detailed impact analysis because they were not identified by the interdisciplinary team as having the potential to be impacted by the proposed action.

2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVE

The PROPOSED ACTION is to grant a 5-Year license for the City of Destin to conduct 4th of July Fireworks Displays at the east end of Santa Rosa Island at the base of the West Jetty. This document will examine this action and a no action alternative.

The proposed action would involve a pyrotechnic display in the evening on the 4th of July, 2008 – 2012, followed by a beach cleanup. All mitigations identified by Eglin's Natural Resources Section (NRS), including those identified under any consultations with the US Fish and Wildlife Service (USFWS) would be followed in order to minimize potential impacts.

Prior to the event: Prior to any activity occurring, NRS personnel will mark all sensitive areas so that they can be avoided by event staff as well as the public. Additionally, the City of Destin will coordinate a briefing of all pertinent parties to be held at the US Coast Guard (USCG) station prior to the event. At this briefing, NRS personnel will have the opportunity to brief event staff and security personnel on the type and location of sensitive biological resources in the area.

Setup procedures: On July 1st or 2nd, equipment setup without explosives will begin. Equipment will be unloaded at the Community Beach Center and will be transported from that location to the launch site by four crew members employed by Pyro Shows, Inc. Access routes for transport of equipment and explosives will be designated by NRS personnel prior to any movement. Approximately a 100 ft x 100 ft area will be required to position firing equipment.

On July 3rd, trucks containing explosives for the fireworks display will arrive at the Community Beach Center. After the day's sea turtle survey is complete, a crew of four people, using pre-designated access routes, will unload and transport explosives to the launch site. Setup will be complete by nightfall and security personnel will remain on-site through the night. Staff will be briefed to use minimal to no light on the beach due to sea turtle concerns.

In addition to the setup, a preliminary trash cleanup of the parking areas and public access points will be conducted by a contractor approved by the City of Destin.

Fireworks display procedures: On July 4th, a crew of four people will arrive after the daily sea turtle survey to wire the show. Also during this time, final arrangements will be made with the radio station for choreography, sponsor for special requests, and the USCG for perimeter security. The fireworks display will begin at 9:00 pm and will last for 20 minutes. The pyrotechnics used in the display will consist of both shells and a low level presentation comprised of barrage boxes (Tables 1 and 2).

Table 2-1. Shell Count for Proposed Fireworks Display

Shell Size	Main Body	Finale	Total
3”		250	250
4”	250	25	275
5”	200	20	220
6”	150	15	165
8”	20	4	24
10”	8	2	10
12”	2	0	2
Total Shell Count			**946**

Table 2-2. Low Level Fireworks Presentation

5-200-Shot Barrage Boxes	1000
5-250-Shot Barrage Boxes	1250
5-150-Shot Barrage Boxes	750
Total Shot Count	**3,000**

Beginning at approximately 7:00 pm and going through the event, a minimum of fifteen security personnel will be onsite to ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way any endangered species or interferes in any way with any endangered species habitat. At least four of the security personnel, one per access point, will be uniformed police officers who are enabled to enforce violations of the laws of the State of Florida. The remaining security personnel, easily identified as such with security uniforms, will serve in a support role and will have constant radio contact with the uniformed officers. Additionally, security staff will have contact with NRS in the event that they need support in protecting sensitive species/habitat.

Takedown procedures: Immediately following the fireworks display, Pyro Shows employees will police the area for duds and remove all weather sensitive equipment, such as electric firing boards, electric cable, and junction boxes.

On July 5th, after the day’s sea turtle survey is complete, a four person Pyro Shows crew will transport all equipment from the launch site to the Community Beach Center. Access routes for equipment transport will be identified by NRS prior to the movement of any equipment.

In addition to the takedown, a cleanup will be conducted of all parking areas and public access points as well as the beach from the dunes to the shoreline and from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles). The parking areas and public access points will be cleaned by a contractor designated by the City of Destin. Beach cleaning machinery will be provided by the City of Destin. Machinery will not be moved onto the beach until NRS personnel complete a daily sea turtle nesting survey and all cleanup activities will be supervised by NRS staff to ensure impacts to sensitive areas are avoided.

ALTERNATIVE A (NO ACTION) is not to issue the license as requested. The fireworks display would not occur on Eglin AFB property.

ALTERNATIVE CONSIDERED BUT NOT EVALUTATED FURTHER: Launching the fireworks from a barge was rejected for several reasons. First, the size barge required to be in compliance with National Fire Protection Act (NFPA) 1123, *Code for Fireworks Display*, would be approximately 3,000 ft^2, which poses several problems. Due to shallow waters in the area, a boat large enough to pull a barge that large would have to stay far enough offshore that the display would be compromised. Additionally, the availability of barges of this size is limited and poses budgetary issues. The barge would have to be transported from Mobile, AL, which would essentially exceed the available budget, making this alternative impractical.

Figure 2-1. Regional Location of Eglin AFB, FL

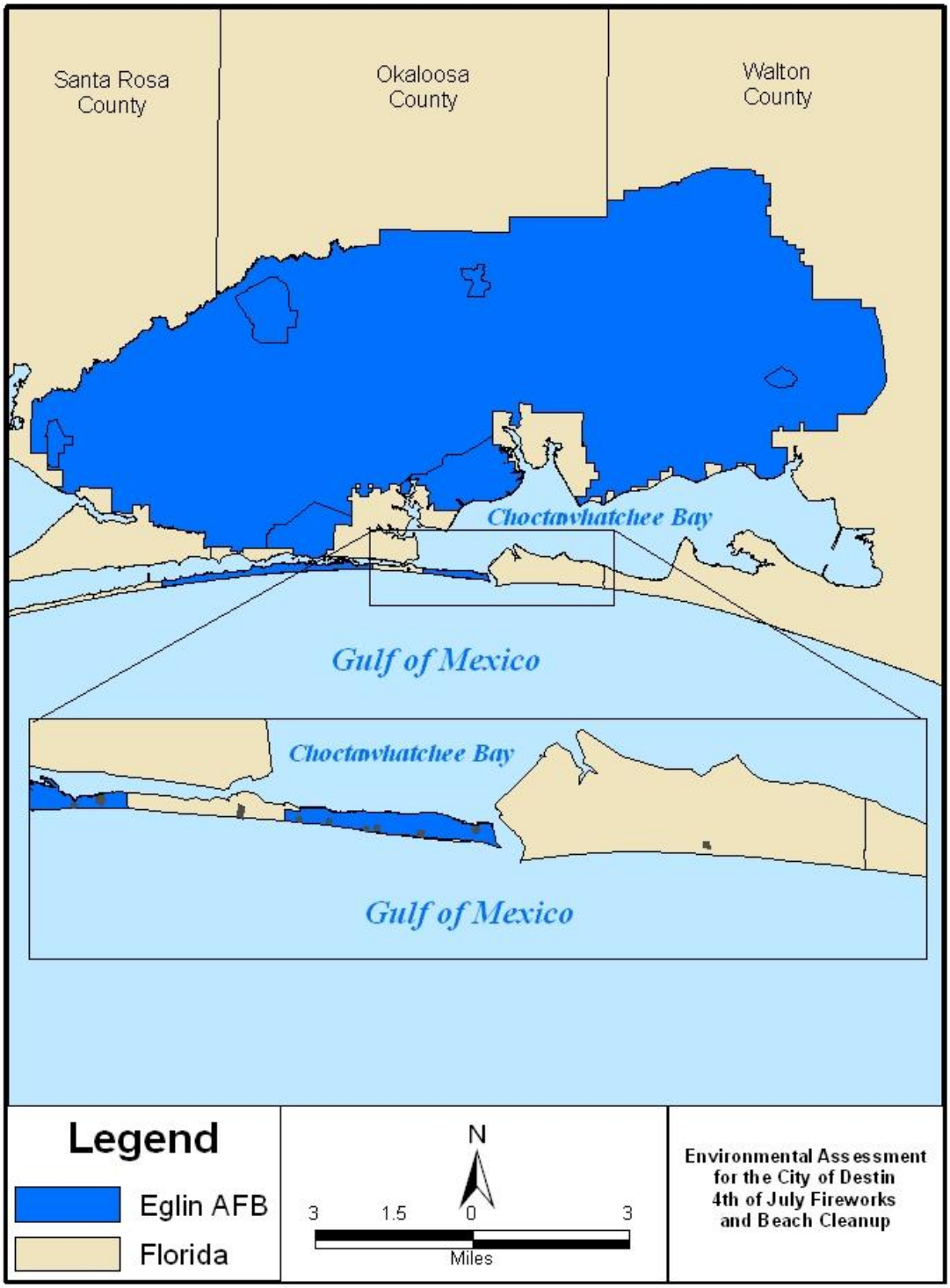

Figure 2-2. Public Beach at East End of SRI

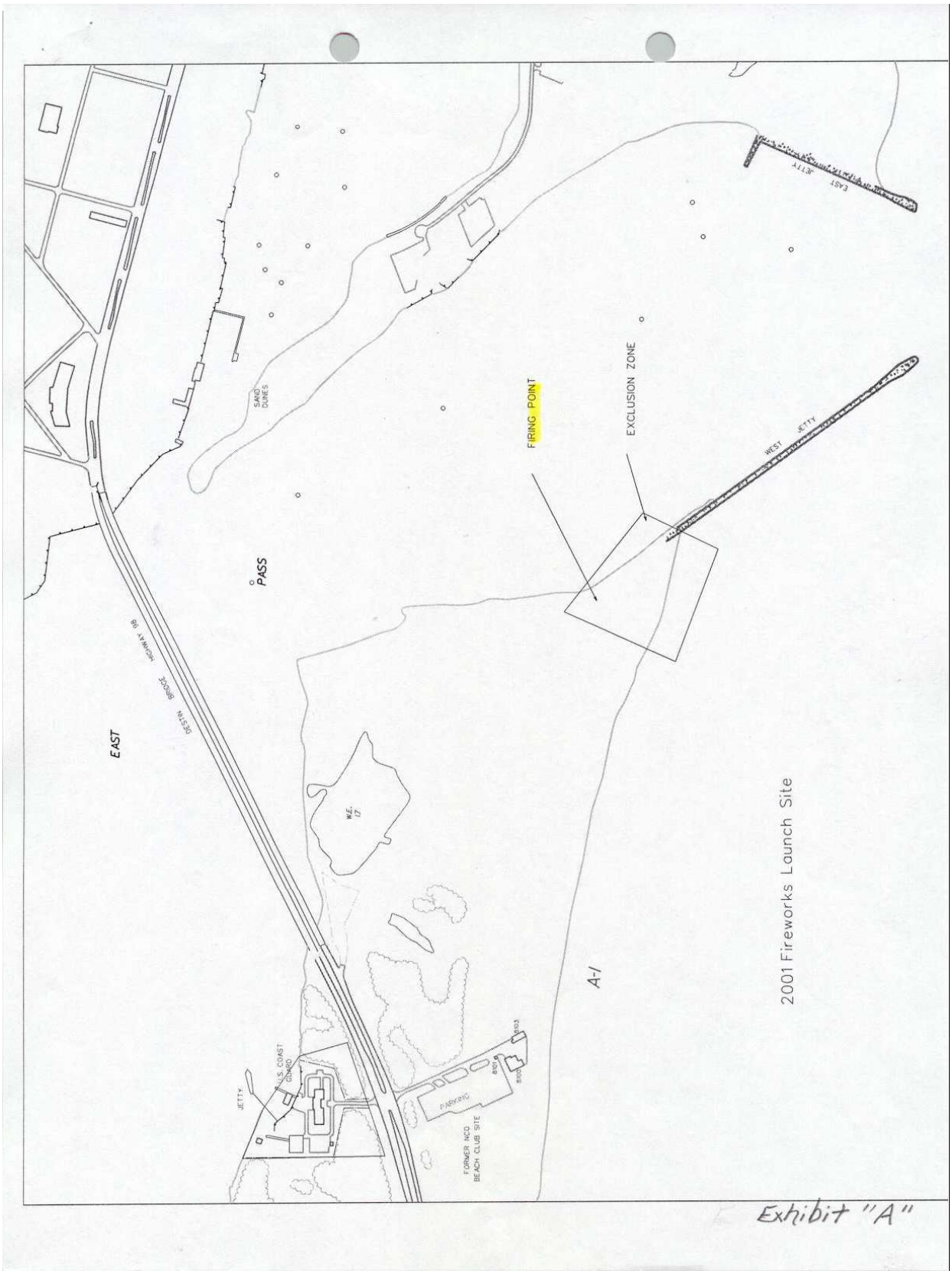

Figure 2-3. Launch Site Located at East End of SRI

3 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

The objective of the Affected Environment chapter is to define, inventory, and generally characterize the nature and condition of the physical, biological, and human receptors within the realm of influence of the proposed action and develop a framework evaluating potential impacts.

Eglin AFB occupies 724 square miles of land area in the northwest Florida panhandle, east of Pensacola (Figure 1, Chapter 1). This represents a major portion of the Florida panhandle's land area. Consequently, Eglin has a rich diversity of unique landscapes, habitats, and species that often fall under federal and state regulatory mandates.

Long-term planning for environmental management and stewardship requires a *working knowledge* of the natural and cultural features (living and nonliving receptors) of the potentially affected environment of all ranges on Eglin AFB. Consequently, attention is devoted to developing an inventory and description of receptor features that may be affected by the proposed action. In this section, an attribute-driven inventory will identify, locate, and characterize the elements of individual receptors. The receptor parameters and sequence of discussions are listed below.

- Physical Features
    - Landforms
    - Air Quality
- Acoustics and Light Effects
- Biological Resources
    - Sensitive Habitats
    - Sensitive Species
- Human-Related Resources
    - Safety/Restricted Access
    - Socioeconomics

3.2 SETTING DESCRIPTION

Santa Rosa Island (SRI), located in the southern section of Eglin AFB in Okaloosa and Santa Rosa counties, Florida, is a narrow barrier Island approximately 50 miles long and less than 0.5 mile wide, separated from mainland northwest Florida by Santa Rosa Sound, a shallow lagoon varying in width from 400 to nearly 5,000 ft, and Choctawhatchee Bay. The Island is bordered on the south shore by the Gulf of Mexico and on the north shore by Santa Rosa Sound and Choctawhatchee Bay. The area proposed for the fireworks display is the easternmost 4-mile strip, which is open for public recreation.

3.3 PHYSICAL FEATURES

3.3.1 Landforms

Santa Rosa Island has been described as a barrier island complex, having the typical landforms of beaches, coastal dunes, interior dunes, and low-lying sound-side beaches and marshes (Chafin

and Schotz, 1995). Gulf beaches vary in width, and are relatively flat with gentle slopes. Beach sands vary from unsorted, mixed grain sizes and shells at the surf zone to finely graded and well-sorted grains on dunes. The coarse deposits found on the Gulf side are well oxygenated due to tidal flushing and large interstitial (between sand grains) spaces (Wolfe and Reidenauer, 1988).

Coastal dunes roughly parallel the Gulf beach, elevated 3 to 5 ft above high tide. They exist in a high-energy environment of wind and wave activity, and because of this, are continually changing. Coastal dunes consist of primary dunes, closer to shore and subject to the greatest wind and wave forces, and behind these, more stable secondary dunes. Sands from primary dunes are periodically eroded and re-deposited during times of high and low energy wave-action. The exposure to salt, waves, and wind limit the vegetation found on primary dunes.

Inland of the coastal dunes are the older, more vegetated, and more stable interior dunes. Gradual trapping of wind blown sands by the vegetation sometimes allows these dunes to build up to several meters in height. The interior dunes are usually aligned north to south from the effects of dominant southeast summer winds. Depressions between interior dunes are often basins for ponds and small lakes known as swales.

Weaker littoral drift processes at work on the north side of the Island, through the Santa Rosa Sound, transport finer sediments than those that formed the south beaches. These fine sediments form tidal flats, which lead to the development of coastal marshes. Wind-blown dune deposits have also led to the formation of sandy beaches along the north shore.

3.3.2 Air Quality

The regional air quality at Eglin is good, attaining both federal and state standards. The input of air emissions from land areas within Okaloosa County is small due to the lack of heavy industry. Air pollutants are emitted from mobile and stationary sources and general maintenance activities, government and privately owned vehicles, jet engine testing, aircraft operations, prescribed burning, wildfires, mission test and training operations, and the open burning/open detonation of unexploded ordnance (U.S. Air Force, 1995).

3.4 ACOUSTIC AND LIGHT EFFECTS

Potential causes of disturbance to humans and wildlife are sound effects and light flashes from exploding fireworks. Pyrotechnic devices that operate at higher altitudes are more likely to have a larger acute impact area (such as aerial shells), while ground and low-level devices have more confined effects. Acute impact area is defined as the area where sound, light, and debris effects have direct impacts on marine organisms and habitats. Direct impacts include, but are not limited to, immediate physical and physiological impacts such as abrupt changes in behavior, flight response, diving, evading, flushing, cessation of feeding, and physical impairment or mortality.

The largest commercial aerial shells that will be used in the fireworks display are 10-12 in (25-30 cm) in diameter and reach a maximum altitude of 1200 ft (366 m) above ground level (AGL). The bursting radius of the largest shells is approximately 1200 ft (366 m). The acute impact area can extend from 1 to 2 miles (1.6-3.2 km) from the center of the detonation point depending on the size of the shell, height of the explosions, type of explosions, wind direction, atmospheric conditions, and local topography.

Aerial shells produce flashes of light that can be brilliant and can occur in rapid succession. Loud explosive and crackling sound effects stem primarily from "salutes" and bursting charges at altitude. People and wildlife on the ground and on the surface of the water can feel the sound waves and the accompanying rapid shift of ambient atmospheric pressure. This pressure wave has been known to activate car alarms that detect vibration. Sounds attenuate farther from high altitude shells than low altitude shells since they are not as easily masked by buildings and landforms, allowing the sound envelope to ensonify more surface area on the ground and water. The sound from the lifting charge detonation is vectored upward through the mortar tube opening and reports as a dull thump to bystanders on the ground, far less conspicuous than the high-level aerial bursts. The intensity of an aerial show can be amplified by increasing the number of shells used, the pace of the barrage, and the length of the display.

Low-level devices reach a maximum altitude of 125 ft (38 m) AGL. The acute impact area can extend to 1 mi (1.6 km) from the center of the ignition point depending on the size and flight patterns of projectiles, maximum altitude of projectiles, the type of special effects, wind direction, atmospheric conditions, and local structures and topography. Low-level devices also produce brilliant flashes and fountains of light and sparks accompanied by small explosions, popping, and crackling sounds. Since they are lower in altitude than aerial shells, sound and light effects impact a smaller area. Low-level devices do not typically employ large black powder charges like aerial shells, but are often used in large numbers in concert with one another and in rapid succession, producing very intense localized effects.

The primary impact to wildlife noted in past observation reports for similar displays is the disturbance of marine mammals and shorebirds from the light and sound effects of the exploding aerial shells. The loud sound bursts and pressure waves created by the exploding shells appear to cause more wildlife disturbance than the illumination effects.

3.5 BIOLOGICAL RESOURCES

This section describes the sensitive habitats and species that are found on Santa Rosa Island. Emphasis is placed on identifying sensitive habitats and species that are within federal and/or state mandates or are of special concern.

3.5.1 Sensitive Habitats

Sensitive habitats found on the Eglin portion of SRI and nearby waters include wetlands, floodplains, Coastal Protection Areas, Essential Fish Habitat as identified in the Magnuson-Stevens Fisheries Act, and critical habitat for sensitive species as identified by the USFWS.

To protect sensitive habitats on SRI, Eglin's Natural Resource Section (NRS) has established public access points and has delineated protected areas for nesting shorebirds and the Florida perforate lichen (Figure 3-1). These areas are closed to the public and are marked with perimeter signs instructing the public to "Keep Out" (Figure 3-2). Additionally, sand fencing (Figure 3-2) and pole and cable barriers (Figure 3-3) are maintained to further ensure that no one mistakenly enters sensitive areas.

Figure 3-1. Protected Areas and Public Access Points in Vicinity of Launch Site

Figure 3-2. Sand Fence with Signage

Figure 3-3. Pole and Cable Barrier with Signage

Piping Plover Critical Habitat

Wintering critical habitat for non-breeding piping plovers was designated on 10 July 2001 (Federal Register, 2001). "Critical habitat" is a term that refers to specific geographic areas that contain the essential habitat features necessary for the conservation of threatened and/or endangered species. Critical habitat areas may require special protection or management considerations for current populations as well as potential population increases necessary to

achieve species recovery. The boundaries of critical habitat are subject to change due to the changing morphology of the shoreline at SRI.

According to the USFWS ruling, the primary constituent elements for piping plover non-breeding habitat are those components essential for foraging, sheltering and roosting, and the physical features necessary for maintaining the natural processes that support these habitat components. These elements are found in coastal areas that support intertidal beaches and flats and associated dune systems and flats above annual high tide. On SRI, critical habitat is located on the north shore, near Test Site A-18 in the westernmost portion of Eglin's property. Critical habitat at this site includes land from Mean Low Water line to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur (Federal Register, 2001). To protect the site, Eglin NRS maintains posted signs and barriers to discourage foot traffic and AF operational activities within the critical habitat area. Areas used by piping plovers are ephemeral habitats that change over time, so when surveys document new locations being used, these areas will be given the same protection afforded the piping plover critical habitat units already established.

The USFWS has identified several activities that may potentially have adverse impacts on piping plover critical habitat. Such activities may include dredging and dredge spoil placement; seismic exploration; construction and installation of facilities, pipelines, and roads associated with oil and gas development, oil spills, and oil spill cleanup; construction of dwellings, roads, marinas, and other structures; staging of equipment and materials; beach nourishment, stabilizations, and cleaning; all-terrain vehicular activity; storm water and wastewater discharge; sale, exchange, or lease of federal land that contains suitable habitat that is likely to result in the habitat being degraded; marsh restoration; and military maneuvers (USFWS, 2007).

Barrier Island Ecological Association

A classification system of ecological associations has been developed based on flora, fauna, and geophysical characteristics. These ecological associations are described in the *Integrated Natural Resources Management Plan*, Eglin AFB (U.S. Air Force, 2007). Santa Rosa Island falls under the barrier island ecological association, and its entire terrestrial area is classified as Coastal Upland Community. Within this community are sand beaches, beach dunes, coastal grassland, coastal interdunal swales, mesic flatwoods, and scrub communities.

Santa Rosa Island is considered an Outstanding Natural Area based on the excellent condition of much of its beach dune, coastal grassland, coastal interdunal swale, mesic flatwood, and scrub communities. The island also supports a number of populations of the federally listed perforate reindeer lichen. Based on a 1992 Florida Natural Areas Inventory (FNAI) report on coastal upland communities (Johnson et al., 1992), Coastal Protection Areas were informally designated on Santa Rosa Island. These were areas that had extremely good scrub habitat and areas where the perforate reindeer lichen was found.

Coastal Zone Management Act

The term "coastal zone" is defined as coastal waters and adjacent shorelands strongly influenced by each other and in proximity to the several coastal states, and including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches. "Coastal waters" are defined as any waters adjacent to the shoreline that contain a measurable amount of sea water, including but not

limited to sounds, bays, lagoons, bayous, ponds, and estuaries. The outer boundary of the coastal zone is the limit of state waters, which for the Gulf coast of Florida is 9 nautical miles from shore. The proposed action is to be conducted within Eglin airspace, land ranges, and water resources. As such, some components of this action would take place within the jurisdictional concerns of the Florida Department of Environmental Protection (FDEP) and therefore would require, at a minimum, a consistency determination with respect to Florida's Coastal Zone Management Plan and the Coastal Zone Management Act (CZMA).

The CZMA provides for the effective, beneficial use, protection, and development of the U.S. coastal zone. Federal agency activities in the coastal zone are required to be consistent to the maximum extent practicable with approved State Coastal Zone Management Plans. Federal agencies make determinations whether their actions are consistent with approved state plans and submit these determinations for state review and concurrence. All relevant state agencies must review the proposed action and issue a consistency determination. The Florida Coastal Management Program (FCMP) is composed of 23 Florida statutes administered by 11 state agencies and four of the five water management districts.

FDEP serves as the lead agency in FCMP matters at Eglin AFB. Information submitted to the state of Florida for consistency review will go through the Florida State Clearinghouse (Clearinghouse), located within the FDEP. The Clearinghouse will serve as the single point of contact for the various agencies. The information will be routed to all the appropriate state, regional, and local reviewers. Recommendations regarding the activity's consistency are provided by member agencies to the FDEP, which makes the state's final consistency determination.

3.5.2 Sensitive Species

Sensitive species include those with federal endangered or threatened status, federal candidate species, and state endangered, threatened, and species of special concern status (Table 3-1). An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is any species that is likely to become endangered in the future throughout all or a significant portion of its range due to loss of habitat, human-related effects, or other causes. Federal candidate species and all state listed species are those that should be given consideration during planning of projects, but have no protection under the Endangered Species Act.

Eglin Natural Resources Section (NRS) protects numerous plant and animal species through habitat management, specifically through the management of habitats and species identified as conservation targets by The Nature Conservancy (Sutter et al., 2001). By addressing the needs of conservation targets, which include sensitive, important, and unique habitats and species, NRS indirectly supports the management of other species and habitat, including state listed species. To protect sensitive habitats on SRI, NRS has established public access points and has delineated protected areas for nesting shorebirds and the Florida perforate lichen (Figure 3-1). These areas are closed to the public and are marked with perimeter signs instructing the public to "Keep Out". Additionally, a sand fence is maintained to further ensure that no one mistakenly enters sensitive areas. Table 3-1 lists sensitive species that occur on and around Santa Rosa Island

followed by a description of listed species that are most likely to inhabit the area adjacent to the proposed action.

Table 3-1. Endangered, Threatened, and Rare Flora and Fauna Associated with SRI

Scientific Name	Common Name	Status
FISHES		
Acipenser oxyrinchus desotoi	Gulf Sturgeon	FT, SSC
REPTILES		
Caretta caretta	Loggerhead Sea Turtle	FT, ST
Chelonia mydas	Green Sea Turtle	FE, SE
Dermochelys coriacea	Leatherback Sea Turtle	FE, SE
Lepidochelys kempii	Kemp's Ridley Sea Turtle	FE, SE
BIRDS		
Charadrius alexandrinus	Snowy Plover	ST, C
Charadrius melodus	Piping Plover	FT, ST
Egretta caerulea	Little Blue Heron	SSC
Egretta thula	Snowy Egret	SSC
Egretta tricolor	Tricolor Heron	SSC
Eudocimus albus	White Ibis	SSC
Rynchops niger	Black Skimmer	SSC
Sterna antillarum	Least Tern	ST
MAMMALS		
Peromyscus polionotus leucocephalus	Santa Rosa Beach Mouse	CT
Trichechus manatus	West Indian Manatee	FE, SE
Tursiops truncatus	Atlantic Bottlenose Dolphin	MMPA
PLANTS		
Cladonia perforata	Florida Perforate Lichen	FE, SE, CT
Drosera intermedia	Spoon-leaved Sundew	ST

FE = Federally endangered, FT = Federally threatened, C = Federal candidate, MMPA = Marine Mammal Protection Act, CT = Eglin/FNAI conservation target, SE = State endangered, ST = State threatened, SSC = State species of special concern

***Sea Turtles*.** Stranding reports for all five sea turtle species have been documented from the northern Gulf region, including the occurrence of a juvenile Kemp's ridley stranding from Choctawhatchee Bay in Okaloosa County. Based on documented nesting and stranding information, there is a potential for any of the five sea turtle species to occur within the proposed project area, however, only three of these species are known to have nested on Eglin beaches, the leatherback, the loggerhead, and the Atlantic green. Leatherback nesting only occurred in 2000.

Atlantic loggerhead (*Caretta caretta*) and the Atlantic green (*Chelondia mydas*) turtle nesting in the northwest region of Florida generally initiates in mid-May, with turtles beginning to congregate offshore in the March/April time frame. Peak nesting activity occurs in June and July, and nesting generally concludes by the end of August. As the largest of the sea turtle species, the leatherback (*Dermochelys coriacea*) is widely distributed but predominantly pelagic. They are generally found in waters exceeding 50 meters depth except during the nesting period. Although major nesting beaches are located in tropical waters outside the US, nesting does occur on the Atlantic coast of Florida and, on rare occasions, in the panhandle region of Florida. Leatherbacks are frequently sighted in northern gulf water. Leatherback turtles feed primarily on jellyfish but will occasionally eat sea urchins, squid, tunicates, fish, blue-green algae, and floating seaweed.

The hawksbill turtle (*Eretmochelys imbricata*) occurs throughout the Caribbean and is observed with some regularity in waters near the Florida Keys. Preferred habitat for the species includes coral reefs, with northern range rarely extending beyond Florida. Hawksbill turtles mainly feed on a wide variety of sponges but will also consume ebryozoans, coelenterates, and molluscs. Although primary nesting areas are located in the Caribbean, the species has been reported as nesting along the gulf coast of Florida but there have been no known nestings on Eglin beaches.

Along with the olive ridley, the Kemp's ridley (*Lepidocheyls kempi*) is the smallest of the sea turtle species. Kemp's ridleys are considered to be the most endangered of all marine turtles and have the most restricted breeding range. The major nesting beach for the species is located near Rancho Nuevo on the northeastern coast of Mexico, where adult females nest in daytime aggregations known as "arribadas". Adult Kemp's ridleys are found almost exclusively in the Gulf of Mexico and have been observed in the mouth of the Mississippi River. Ridley hatchlings are believed to associate with *Sargassum* rafts, while juveniles can be found in the northern Gulf of Mexico and in embayments along the eastern Atlantic seaboard. Hatchlings are presumed to feed upon *Sargassum* and its associated infauna, while adult diet consists primarily of crabs. Kemp's ridleys are not known to nest on Eglin's Beaches.

Piping Plover

The piping plover (*Charadrius melodus*) is listed as "threatened" by both the State of Florida and federally. Piping plovers are commonly documented during winter in the Florida panhandle, with the highest numbers of birds occurring in Franklin, Gulf, and Bay counties. Even though Florida has not been considered a primary wintering area for piping plover, diminishing habitat along other Gulf coast areas may be affording the piping plover new wintering grounds in Florida. These wintering grounds are still considered less suitable, thus forcing the piping plover to utilize isolated patches. As a result, critical habitat has been designated for piping plovers along the Gulf coast of Florida, a portion of which covers SRI.

Piping plovers are found in non-breeding (migration and wintering) habitats along the Gulf of Mexico as early as mid-July and leave by mid-May. Piping plovers are known to forage in exposed wet sand areas such as wash zones, intertidal ocean beachfronts, wrack lines, washover passes, mud and sand flats, ephemeral ponds, and salt marshes. They are also known to use adjacent areas for sheltering in dunes, debris, and sparse vegetation. Although it is possible that plovers could use any one of these habitat types at any time during the non-breeding season, studies have shown that non-breeding plovers spend 76 percent of their time foraging for invertebrates found just below the surface of wet sand (Johnson and Baldassarre, 1988).

Prior to 2006, Eglin NRS staff and volunteers conducted periodic surveys during the non-breeding season and volunteer personnel have periodically conducted shorebird surveys on SRI during the non-breeding season. These surveys included participation in the International Piping Plover Census in January of 1991, 1996, 2001, and 2006. Piping plovers were not sighted on Eglin's SRI property during any of these official surveys. Beginning in 2006, Eglin NRS has conducted routine shorebird monitoring throughout the year according to piping and snowy plover winter survey guidelines provided by the U.S. Fish and Wildlife Service (USFWS). These guidelines combine the survey protocol from the International Piping Plover Census and the International Shorebirds Survey (USFWS, 2005).

Shorebirds and Other Migratory Birds

Several shorebird species are found on Eglin barrier island property. These include the federally and state threatened piping plover, the state threatened southeastern snowy plover and least tern, and the state species of special concern, black skimmer. These birds breed and nest in a variety of habitats including open, flat areas, wrack line habitats, and coastal ponds. Shorebird nesting season runs from 1 April through 31 August. Vehicular and foot traffic, storms, and predation by feral cats are considered the primary causes of nest failure. Eglin beach property contains the highest densities of snowy plovers and is the most productive nesting area in the state.

Shorebird nesting season at SRI is approximately 15 March through 31 August. During this period, Eglin NRS conducts bimonthly shorebird surveys to collect data regarding the populations of the protected species. In 2007, the National Audubon Society conducted a shorebird nesting study for snowy plovers; twenty-nine nesting pairs were located. Although natural forces including hurricane activity continually change the landscape of SRI, Eglin NRS annually observes and documents areas that appear to be preferred by nesting shorebirds. In an attempt to designate and protect these areas, Eglin NRS posts signs to discourage foot traffic and Air Force operational activities (Figure 3-1).

In addition to the protection afforded to these shorebirds through their state listed status, they also receive protection under the Migratory Bird Treaty Act (Act). The Act implements the United States' commitment to four treaties for the protection of shared migratory bird resources. The Secretary of the Interior (Secretary) is given authority to carry out the provisions of the Act. A migratory bird is defined by the USFWS as any species or family of birds that lives, reproduces, or migrates within or across international borders at some point during their annual life cycle. A list of migratory birds protected by the Act is available on the Internet on the USFWS website at: http://migratorybirds.fws.gov/intrnltr/mbta/mbtandx.html. All previously described shorebirds found on SRI are included on this extensive list.

Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird. The prohibitions apply to any migratory bird, part, nest, egg, and any manufactured or non-manufactured product that is composed, in whole or in part, of any such bird, part, nest, or egg.

Santa Rosa Beach Mouse. The Santa Rosa beach mouse (*Peromyscus polionotus leucocephalus*) is one of seven extant beach mouse subspecies, five of which inhabit the panhandle of Northwest Florida. Of the five Gulf subspecies, the Santa Rosa subspecies is the only one not currently listed by either the state or the federal government. Beach mice are mostly nocturnal, and burrow nests in dunes. They inhabit frontal dune and scrub habitat within the coastal dune ecosystem on SRI, preferring sand-covered slopes with patches of grasses and herbs, and their diet consists of seeds and fruits of beach plants, as well as insects (Bird, 2003). The Santa Rosa subspecies population, which occurs only on SRI, was decimated after the storm surge from Hurricane Opal in 1995 destroyed a significant amount of dune habitat. Beginning in

1996, track-count surveys conducted by Eglin NRS personnel indicated a forty percent increase in population from 1996 to 2001 (U.S. Air Force, 2002).

Hurricane Ivan in 2004, as well as hurricanes Dennis and Katrina in 2005, again decimated a large percentage of the dune habitat. Beginning in 2004, Eglin NRS increased survey frequency and began conducting monthly surveys to determine the severity of the impact to the population. Since then, preliminary results indicate that beach mice are still present, but additional data is required to determine the status of the current population. To supplement monthly track-count surveys, Eglin NRS has also incorporated the Florida Fish and Wildlife Conservation Commission (FWC) tracking tube survey protocol. Beginning in February of 2007, monthly tracking tube surveys now provide data regarding the presence/absence of beach mice in varied ecosystems on Eglin's restricted portion of SRI. This tracking tube method has been developed as a potential alternative to survey for presence/absence of the species. By maintaining both survey types, Eglin NRS hopes to provide comparative data regarding the subjectivity each method. In addition to these monthly surveys, Eglin also continues to support the USFWS annual beach mouse trapping and tagging efforts.

While the most devastating losses to beach mouse populations result from storm surges from hurricanes and tropical storms, other significant threats include predation by feral cats and loss of dune habitat from recreational foot traffic on public-access beaches. Eglin NRS is working to improve protection of dunes by promoting public awareness. These efforts include the installation of signs and barriers to discourage foot traffic in protected areas, the posting of educational signs at beach access locations on the public portion of SRI, and the dissemination of informational literature.

Florida Perforate Reindeer Lichen. Florida perforate lichen (*Cladonia perforata*) is federally listed as "endangered" and has a very restricted population, attributable primarily to a significant loss of its historic habitat. The lichen is endemic to Florida's white sand scrub habitat dominated by sand pine, rosemary, and other scrub oaks such as sand oak, live oak and myrtle oak. It typically occurs in open areas between patches of scrub vegetation. In addition to habitat loss, it is also threatened by trampling/human disturbance, storm surge overwash, and is susceptible to fires (USFWS, 1999).

There are three historic populations on Eglin AFB. In 1995, Hurricane Opal destroyed two of these populations and reduced the remaining one by more than seventy percent (Yahr, 2001). This reduced population persists just west of the Destin Pass on the public-access portion of SRI (Figure 3-1). In June 2000, two reintroduction populations were established in the areas of the lost populations, near Test Area A-10 on the north side of SRI. In 2003, as part of the conservation effort for this rare species, 200 thalli were transported to Bok Tower Sanctuary in Lake Wales, Florida, and established in a protected garden setting. However, these original thalli have died, and NRS is working to complete the permits required to re-establish another population there. If necessary, this "safe population" could serve for future reintroduction to SRI following catastrophic hurricane events.

In an attempt to protect the known populations, Eglin NRS maintains posted signs and barriers to discourage foot traffic and AF operational activities within the three historic habitat areas.

Additionally, to discourage human disturbance and increase general awareness, informational signs are posted at public beach access points regarding the barrier island ecosystem and the species it supports.

3.6 HUMAN-RELATED CONCERNS

3.6.1 Safety

Obvious hazards associated with a pyrotechnics display include injury or death due to direct contact with exploding material. Less obvious hazards may also exist if the proposed action occurs, including public interaction with vehicular traffic, including waterborne vehicles and land vehicles on Highway 98, designated parking areas, and non-designated parking areas. Hazards associated with the Gulf of Mexico, such as drowning and attack by marine organisms, may also exist any time the public enters the water.

3.6.2 Socioeconomics

Santa Rosa Island is an integral element of the Emerald Coast economy. Santa Rosa County, Okaloosa County, and Walton County have an interdependent economy that is heavily influenced by the military presence. The three counties also depend on tourism as a base industry supporting local economics. The Island is both a centerpiece attraction for tourism and a unique area for military training and testing.

The military and the local economy rely heavily on the unique resources of the Island. On Santa Rosa Island, the military can conduct training and testing over and in the sea, on land, and in the transitional surf zone. This type of landform is important to certain air, land, and sea operations, training, and testing, and is not readily available elsewhere. Additionally, the warm weather, reasonable cost of living, and proximity of Eglin facilities and services have made the area a preferred destination for many military retirees. Tourists also are attracted to the pristine beaches. The commercial development of Destin has made the area a destination for an increasing number of vacationers. A great deal of the coastline of the three counties has been or is in the process of significant development to support this increased tourism. Eglin controlled areas of Santa Rosa Island, however, remain immune to commercial development. Vacationers enjoying the undeveloped island beach are nourishing continued commercial development of the three counties' tourism industries.

4 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter analyzes the potential impacts of granting a license for the City of Destin's 4th of July fireworks display and beach cleanup (Chapter 2) on the affected environment of Santa Rosa Island (Chapter 3). Analysis will focus on potential environmental impacts to the physical (air, water, and soil), biological (plants and animals), and humans (cultural and public) resources of Santa Rosa Island. This section will identify environmental issues and impacts associated with the alternatives described in Chapter 2.

4.2 ORGANIZATION

The Affected Environment (Chapter 3) resources have been summarized into three general resource categories for impact analyses:

- Physical Features
    - Landforms
    - Air Quality
- Acoustics and Light Effects
- Biological Resources
    - Sensitive Habitats
    - Sensitive Species
- Human-Related Concerns
    - Safety
    - Socioeconomics

4.3 PHYSICAL FEATURES

4.3.1 Landforms

Dunes provide important structure to various flora and fauna on Santa Rosa Island and avoiding physical impacts to dunes is essential to minimizing impacts. Dunes in the project area are protected by pole and cable fencing and signage. Additionally, security forces on scene will enforce these structures in order to keep spectators from walking on and potentially damaging these sensitive landforms. Due to these dune avoidance measures, these important landforms and the vegetation inhabiting them should not be impacted by the proposed action.

4.3.2 Air Quality

USEPA released a ruling in 2007 of how to treat data influenced by "exceptional events", which specifically includes fireworks displays (40 Code of Federal Regulations (CFR) 50 and 51). Under certain conditions, the USEPA ruled to treat emissions from fireworks as an exceptional event and to exclude data from regulatory determinations for monitoring stations whose exceedances or violations are determined to be caused by emissions from fireworks displays on a case-by-case basis.

The Florida Department of Environmental Protection (FDEP) drafted a Demonstration of Request for Exclusion of Ambient Air Data for 2004 – 2006 to request exclusion of exceptional events for the $PM_{2.5}$ data affected during those years. Within this demonstration, FDEP

requested exceptions for monitoring stations throughout the state on New Year's Day and Independence Day for the years 2004 – 2006 due to fireworks displays in the area.

Due to the specific treatment of fireworks displays by the USEPA and FDEP as "exceptional events", whose emissions are excludable from monitoring data, the proposed action will not impact air quality.

4.4 ACOUSTIC AND LIGHT EFFECTS

Physical Impairment to Humans and Wildlife

In 2001, the Monterey Bay National Marine Sanctuary (MBNMS) and USFWS monitored the July 4 City of Monterey fireworks display with the most thorough effort to date. Monitors recorded species abundance before, during, and after the event and measured the decibel level of exploding fireworks. A hand-held decibel meter was located aboard a vessel adjacent to the Monterey Breakwater, approximately one half mile from the fireworks launch site. The highest sound pressure level (SPL) reading observed on the decibel meter during the fireworks display was 82 decibels.

Permanent (auditory) threshold shift (PTS) occurs when there is physical damage to the sound receptors in the ear. In some cases there can be total or partial deafness, while in other cases the animal has an impaired ability to hear sounds in specific frequency ranges. Although there is no specific evidence that exposure to fireworks can cause PTS in any marine mammals, physical damage to a mammal's ears can potentially occur if it is exposed to sound impulses that have very high peak pressures, especially if they have very short rise times (time required for sound pulse to reach peak pressure from the baseline pressure). Such damage can result in a permanent decrease in functional sensitivity of the hearing system at some or all frequencies.

Temporary (auditory) threshold shift (TTS) is the mildest form of hearing impairment that can occur during exposure to a strong sound (Kryter, 1985). When an animal experiences TTS, its hearing threshold rises and a sound must be stronger in order to be heard. TTS can last from minutes or hours to (in cases of strong TTS) days. Richardson et al. (1995) note that the magnitude of TTS depends on the level and duration of noise exposure, among other considerations. For sound exposures at or somewhat above the TTS threshold, hearing sensitivity recovers rapidly after exposure to the noise ends.

Some factors that contribute to onset of PTS are as follows: (1) Exposure to single very intense noises, (2) repetitive exposure to intense sounds that individually cause TTS but not PTS, and (3) recurrent ear infections or (in captive animals) exposure to certain drugs. Given the frequency, duration, and intensity of sounds resulting from fireworks displays (maximum measured 82 decibels (dB) for larger aerial shells) that wildlife may be exposed to, it is unlikely that they would sustain temporary, much less permanent, hearing impairment during fireworks displays.

Behavioral Disturbance to Wildlife

Species within the immediate vicinity of the fireworks display area would likely exhibit a startle response to the noise. However, foraging species would typically move on other areas, while nesting species would return after the general disturbance. These activities would also likely

scare other species such as predators (e.g., feral cats, coyotes, etc.) from the area, thus reducing the chances of nest predation should nesting birds be flushed.

In some display locations, marine wildlife may avoid or temporarily depart the impact area during the hours immediately prior to the beginning of the fireworks display due to increased human recreational activities associated with the overall celebration event (noise, boating, kayaking, fishing, diving, swimming, picnicking, beach combing, etc.), and as a fireworks presentation progresses, most marine mammals and birds generally evacuate the impact area. In particular, a flotilla of recreational boats usually gathers near the impact area to view the fireworks display from the water.

Non-nesting marine birds are among the first wildlife to evacuate the area at the start of fireworks displays. Past observations by the MBNMS indicate that virtually all birds within the acute impact area depart in a burst of flight within one minute of the start of a fireworks display, including low-level displays with numbers returning to normal levels by the following morning. No injuries, fatalities, or negative impacts to marine birds have been detected during several years of monitoring and observations by the MBNMS.

In general, marine wildlife depart or avoid surface waters and within a 1000-yard radius of the center of the impact area during fireworks displays. Even short, low-level displays can cause a flight response in wildlife within the acute impact area.

4.5 BIOLOGICAL RESOURCES

Based on analysis of the potential impacts to federally protected species from the Destin Fireworks on SRI, Eglin NRS believes the proposed action is not likely to adversely affect sea turtles, piping plovers, and *Cladonia perforata* and not likely to adversely modify piping plover critical habitat. The Santa Rosa beach mouse and shorebirds are also considered and Eglin NRS believes there would be minimal impacts to these species. Avoidance and minimization measures would serve to mitigate potential impacts from firework activities.

The USFWS will be notified immediately if any of the actions considered in this proposed action are modified or if additional information on listed species becomes available, as a re-initiation of consultation may be required. If an impact to a listed species occurs beyond what has been considered in this assessment, all operations will cease and the Service will be notified. Additionally, if an injured or deceased shorebird is found as a direct result of the fireworks activities, Eglin NRS would contact the USFWS immediately. Any modifications or conditions resulting from consultation with the Service will be implemented prior to commencement of activities.

4.5.1 Sensitive Habitat

Due to management practices in place, such as protective barriers and regular monitoring, as well as terms agreed to by the City of Destin to provide adequate law enforcement and trash cleanup (Chapter 2), the proposed action is not likely to adversely affect sensitive biological habitat.

In accordance with the Endangered Species Act, an informal Section 7 consultation with the US Fish and Wildlife Service has been conducted due to the potential for impacts to federally

threatened and endangered species. Eglin has agreed to comply with the Avoidance and Minimization measures set forth in the Biological Assessment and it has been appended to this document (Appendix B).

Piping Plover Critical Habitat
Piping plover critical habitat is situated on the north shore of SRI north of Test Site A-18. The critical habitat area has been marked with "Endangered Species" signs and is clearly visible. Destin fireworks activities would not occur near this area, therefore the proposed activities are **not likely to adversely modify** designated piping plover critical habitat on SRI.

Barrier Island Ecological Association
Avoidance measures already employed on SRI will minimize any potential adverse effects to sensitive island habitat. The most damaging indirect effect of the proposed action would result from spectator foot traffic. Because spectators will not be permitted into sensitive areas due to barriers, signage, and law enforcement officials, the proposed action is not likely to adversely affect these areas either directly or indirectly.

Coastal Zone Management Act
After review of the Florida Coastal Management Program and its enforceable policies, the U.S. Air Force has made a determination that this activity would not have an effect on the state of Florida coastal zone or its resources. In accordance with Section 307 of the Coastal Zone Management Act (CZMA), 16 U.S.C. § 1456, and 15 C.F.R. Part 930.35, a Coastal Zone Management Act negative determination was prepared for the proposed action and has been appended to this document (Appendix A). A letter was received from the Florida State Clearinghouse, concurring with Eglin's determination that there were no adverse impacts to the coastal zone.

4.5.2 Sensitive Species

Due to management practices in place, such as protective barriers and regular monitoring, as well as terms agreed to by the City of Destin to provide adequate law enforcement and trash cleanup, the proposed action is not likely to adversely affect sensitive biological species.

In accordance with the Endangered Species Act, an informal Section 7 consultation with the US Fish and Wildlife Service has been conducted due to the potential for impacts to federally threatened and endangered species. Eglin has agreed to comply with the Avoidance and Minimization measures set forth in the Biological Assessment and it has been appended to this document (Appendix B). Additionally, Eglin will adhere to state guidelines for the protection of nesting shorebirds as recommended in the USFWS Biological Opinion (Appendix B).

Sea Turtles
Obstructions from the Destin fireworks display may discourage female sea turtles from nesting on the beachfront during nesting season; however, the affected area is very small (Figure 3-1). Because Site A-1 is rarely used for turtle nesting (approximately one nest on an average annual basis), Eglin NRS does not anticipate any direct physical impacts to nesting or hatching turtles from the firework activities.

Environmental Consequences

Setup, removal of the fireworks, and associated beach cleanup would not begin until after the morning sea turtle survey is complete and all nests are marked and protected in accordance with established NRS and state protocol. NRS biologists would install a series of stakes and highly visible survey ribbon to establish a radius surrounding the nest. If any ruts greater than three inches on the beach occur from setup or removal of the fireworks display, the ruts would be filled in prior to sunset. If a nest occurs within the project area, the fireworks display location on the beach would be repositioned away from the nesting site at least fifty feet.

During the nighttime fireworks show minimal lighting for safety purposes would be needed. This lighting would be directed seaward at all times, light fixtures should consist of a single low-pressure sodium vapor bulb. All light fixtures would be fully shielded, with direct lighting visible only from immediately underneath the fixture.

Additional increase in public activity associated with the Destin fireworks could potentially impact species due to excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat. A preliminary trash cleanup of the parking areas and public access points would be conducted in anticipation of increased debris from the public. The City of Destin would be responsible for the cleanup effort the following day of the fireworks show. This cleanup would include all parking areas, public access points, and the beach area (between the dunes and the shoreline) from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles) after the morning sea turtle survey is complete.

To minimize impacts to sea turtles, the following avoidance and minimization measures would be required:

- All activity associated with the Destin fireworks would occur after the morning sea turtle survey has been completed.
- All known sea turtle nests would be marked and protected in accordance with established Eglin NRS protocol.
- All ruts deeper than three inches created during daytime operations would be filled in before sunset. Ruts may be filled in by hand using a heavy-duty "garden" rake that penetrates no more than three inches deep into the sand or by towing a section of weighted chain-link fence behind a vehicle. At no time shall raking be conducted within the marked nest areas.
- All equipment, except the fireworks display, would be removed from the work area before sundown and not left on the beach overnight.
- If a turtle crawl is seen on the beach with no associated marked nest, the Natural Resources staff or appropriate turtle monitoring personnel shall be contacted immediately. Care shall be taken not to disturb the crawl and/or nest site.
- No other equipment, vehicles, etc., would be allowed on the beach or dunes during fireworks activities that are not essential to the activity.
- If a nest occurs within 0.5 mile from the work area, a series of stakes and highly visible survey ribbon or string would be installed to establish a radius surrounding the nest. No

activity would occur within this area, nor would any activity occur that could result in impacts to the nest. Nest sites would be inspected daily to ensure nest markers remain in place and that the nest has not been disturbed.

- All personnel involved in setup or performing the work would familiarize themselves with all requirements.
- No project participants would traverse dunes, vegetated or unvegetated, that are 1.5 m (5 ft) tall or taller.
- Security personnel would be onsite to ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat.

With these avoidance and minimization measures, Eglin NRS believes the Destin fireworks activities on SRI are **not likely to adversely affect** sea turtles.

Piping Plover

Research indicates that patterns of piping plover habitat usage can be very complex and plovers could feasibly use several locations on the island for foraging, roosting, or sheltering at any time, day or night (U.S. Air Force, 2007). The disturbance generated by setup and removal of the fireworks display as well as the fireworks show on the fourth of July, would be sufficient to keep piping plovers from foraging in the display area during the course of the operation. During this time, displaced plovers may simply move on to undisturbed foraging areas. Displacement would be temporary and localized.

Additional increase in public activity associated with the Destin fireworks could potentially impact species due to excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat. A preliminary trash cleanup of the parking areas and public access points would be conducted in anticipation of increased debris from the public. The City of Destin would be responsible for the cleanup effort the following day of the fireworks show. This cleanup would include all parking areas, public access points, and the beach area (between the dunes and the shoreline) from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles) after the morning sea turtle survey is complete.

The following avoidance and minimization measures would be followed to minimize the potential for impacts to the piping plover resulting from Destin fireworks activities:

- Areas marked with "Endangered Species" signs would be avoided (Figure 3-1).
- Security personnel would be onsite to ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat.

With these avoidance and minimization measures, Eglin NRS believes the Destin fireworks activities on SRI are **not likely to adversely affect** piping plovers.

Shorebirds and Other Migratory Birds

Some shorebirds may be temporarily displaced as a result of noise from firework display activities. Colonies or individual nests of several state-listed shorebird species (least terns, southeastern snowy plovers, and black skimmers) are usually found along the wrack line or other suitable habitat along the beach and have the potential to occur within the proposed action area. State listed wading birds such as the snowy egret, little blue heron, tri-colored heron, and white ibis, forage mainly in wetland areas or along shorelines of saltwater and freshwater water bodies. A breeding area for several wading bird species is documented to occur along the west shore of East Pass on SRI. Land-based activities near shorebird nesting areas may result in a flush/startle response. During nesting season, this may result in an increased vulnerability of eggs and chicks to predation. Foraging species would typically move on to other areas, while nesting species should return after the general disturbance was over. These activities would also likely scare other species such as predators (e.g. feral cats, coyotes, etc.) from the area, thus reducing the chances of nest predation should nesting birds be flushed.

To minimize the potential for impacts to shorebirds, the NRS would conduct a pre-work survey and a post-survey (the morning after the fireworks show) for nesting shorebirds. If nesting pairs are identified then a daily survey for five consecutive days would be conducted to see if the nests have been abandoned. Staging of firework equipment would be located outside all known shorebird nesting sites. With this avoidance and minimization measure in place, Eglin NRS has determined that the Destin fireworks activities would have minimal impact on shorebirds and their nesting areas. If shorebirds are located outside of the posted areas, that area would then be posted prior to fireworks activities and avoided.

Adverse effects on other migratory birds are also unlikely. In the unlikely event that NRS personnel encounter evidence of unforeseen migratory bird activity or threats to such activity in the project area, areas of concern will be marked and avoided. USFWS will be contacted as necessary in accordance with provisions of the Migratory Bird Treat Act.

Santa Rosa Beach Mouse

Destin fireworks activities on SRI would not significantly impact the Santa Rosa beach mouse. Additional increase in public activity associated with the Destin fireworks could potentially impact species due to excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat. Potential for direct impacts to the Santa Rosa beach mouse from fireworks activities is low as dunes and dune systems would be avoided by personnel and associated equipment. This measure would greatly minimize impacts to dunes and dune vegetation as well as reduce potential impacts to beach mice and their burrows.

Florida Perforate Reindeer Lichen

Potential exists for personnel or equipment to accidentally enter *Cladonia perforata* habitat during setup and removal of the fireworks display. *C. perforata* sites exist near the project area (Figure 3-1). Fireworks personnel would be instructed to stay out of marked habitat. These sites are fenced and marked with "Endangered Species – Do Not Enter" signs. Additional increase in public activity associated with the Destin fireworks could potentially impact species due to

excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat.

Destin fireworks activities may occur near *C. perforata* areas, but Eglin NRS believes these activities are **not likely to adversely affect** the Florida perforate lichen on SRI. The following avoidance and minimization measures would be followed to minimize the potential for impacts to the perforate lichen resulting from fireworks activities:

- Locations of perforate lichen colonies would be fenced off and marked with "Endangered Species" signs.
- All activities would avoid known locations of the perforate lichen.
- Security personnel would be onsite to ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat.

4.6 HUMAN-RELATED CONCERNS

4.6.1 Safety

During the fireworks display, uniformed police officers and event staff will be on scene to secure the launch point from unauthorized personnel. This should prevent children or the general public from entering the launch area. Law enforcement, which will be stationed at each of the public access points, will also be authorized to enforce traffic violations, which will minimize impacts to pedestrian safety.

Should the annual 4th of July fireworks license through 2012 and associated fireworks display be approved, the event will be staffed by personnel trained in emergency procedures (e.g. first aid providers), thus would be more conducive to public safety in the event of an emergency, whether on land or in the water.

Commercial fireworks are extremely hazardous, even in the hands of trained experts. Air Force personnel, on or off-duty, must not take part in the transportation, storage, setup, or functioning of commercial fireworks for on-base fireworks displays. Contractors must comply with safety guidelines in NFPA 1123, Code for Fireworks Display.

4.6.2 Socioeconomics

Socioeconomic impacts of the proposed action would be primarily beneficial by enabling Independence Day celebrations to occur. Celebration of Independence Day is a widespread cultural event in the U.S. and this particular celebration has come to be expected within the local community. If the event were not to occur, a negative impact to morale and the potential for strained relations between Eglin Air Force Base and the surrounding community would likely be realized.

Negative socioeconomic impacts would be highly localized, both spatially and temporally. These include congested traffic and annoyance to users of the beach who do not support the

event. Due to their spatial and temporal confinement, these potential impacts are not likely to have a marked impact on the socioeconomics of the study area.

5 CUMULATIVE IMPACTS

5.1 CUMULATIVE IMPACTS DEFINITION

According to the Council on Environmental Quality (CEQ) regulations, cumulative impacts analysis should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7).

Cumulative effects may occur when there is a relationship between a Proposed Action or alternative and other actions expected to occur in a similar location or during a similar time period. This relationship may or may not be obvious. The effects may then be incremental (increasing) in nature and result in cumulative impacts. Actions overlapping with or in close proximity to the Proposed Action or alternatives can reasonably be expected to have more potential for cumulative effects on "shared resources" than actions that may be geographically separated. Similarly, actions that coincide temporally will tend to offer a higher potential for cumulative effects.

Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. In accordance with the National Environmental Policy Act (NEPA), a discussion of cumulative impacts resulting from projects that are proposed, under construction, or recently completed is provided within this section.

In this EA, an effort has been made to identify all past actions on or near the action area, as well as those that are being considered and are in the planning stage at this time. To the extent details regarding such actions exist and the actions have a potential to interact with the Proposed Action or Alternative A outlined in this EA, these actions are included in the cumulative analysis.

5.2 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

This EA applies a stepped approach to provide decision-makers with not only the cumulative effects of the Proposed Action, but also the incremental contribution of past, present, and reasonably foreseeable future actions.

Past and Present Actions Relevant to the Proposed Action and Alternative

The relevant past and present actions associated with the impacts of the Proposed Action include existing military training exercises, plus infrastructure improvements such as seawall and bulkhead repair and construction, roads and culverts, dredging of the East Pass, and other shoreline restoration projects. Additionally, the area experienced active hurricane seasons in recent years, including Hurricane Ivan in 2004 and Hurricanes Dennis and Katrina in 2005. Past and present actions in and around the action areas associated with these activities may have cumulative effects on the local environment.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions include shoreline restoration projects conducted on Santa Rosa Island (SRI) or on nearby beaches and in adjacent counties, infrastructure repairs, recurring dredging of the East Pass, dune restoration, and mission changes related to Base Realignment and Closure (BRAC). Depending on storm activity and the impacts to beaches, additional shoreline restoration may be required. Bulkhead installation is planned at select test sites at SRI.

SRI Range Complex Road Repair

In a separate but related action due to spatial proximity, the Air Force will repair the damage to roads and culverts on the SRI Range Complex. Storm surge from hurricanes has caused numerous washouts and in some places completely eradicated this road, which runs the length of the SRI Range Complex. Road repair consists of reconstructing 13.1 miles of roadway (22 feet wide). The Air Force would remove the damaged sections of road, and would place the new road as close to the old alignment as possible. Where existing road is left in place, the new road will be constructed on top of it. Four pre-cast box culverts have been added in areas that have seen reoccurring drainage and erosion problems.

Adjacent Dredging and Land Mass Restoration Projects

Shoreline restoration is occurring or has been completed in Destin (Okaloosa County), adjacent Santa Rosa and Walton Counties and in nearby Bay and Escambia Counties. Sand was obtained from offshore locations with a hopper dredge and pumped onto the beach, or, in the case of the Destin and Walton County restoration, from a sand shoal off of East Pass. Bulldozers were used to move the sand to the appropriate location. The Air Force is currently proposing to restore 5 miles of shoreline from Test Area A-2 ½ west to A-3 ½ by dredging sand from offshore to the beach face. This action would extend the beach to pre-Hurricane Ivan conditions.

Dune construction activities are proposed for several areas on SRI, though none of the proposed areas for dune construction are within the area of the proposed action. This activity would consist of dredging sand from offshore locations and pumping it onto the beach area. All activities would be overseen by the USACE. Due to lack of sufficient available funding, dune construction is not likely to occur before 2010.

Approximately every two to three years, the USACE dredges East Pass, the channel which borders the easternmost end of SRI. Hurricanes and tropical storms move substantial amounts of sediment into the channel, creating shallow areas that pose navigation hazards to vessels. The channel was last dredged after Hurricane Katrina in 2005. The USACE conducts dredging operations to remove shoaled material from the navigation channel through the inlet and ebb tidal shoal. The USACE is responsible for maintenance activities in the East Pass Federal Navigation Project at Destin Florida in cooperation with Okaloosa County, which is the non-federal sponsor. Dredged material consisting of roughly 250,000 yd^3 of beach quality medium and fine sand is placed directly on the shoreline extending seaward of the Mean High Water Line (MHWL) beginning 1,200 feet west of the pass and extending to a distance of 1 mile west.

Seawall and Bulkhead Construction

The Air Force is planning to construct three seawalls totaling 1,372 linear meters in length. Each seawall will consist of 40-foot-wide steel sheet piles capped with a continuous 1 m by 1 m reinforced concrete beam. In addition, piles are to be encased with reinforced concrete in heights varying from 4 to 5 m. The Air Force will place large rocks or similar energy dissipation materials in front of each seawall.

Base Realignment and Closure (BRAC)

BRAC would result in an addition of 2,200 7th Special Forces Group, Airborne (7SFG(A)) and 2,326 Joint Strike Fighter (JSF) personnel to Eglin. The 7SFG(A) would have access to the portion of SRI owned by Eglin AFB. Their activities would be restricted in areas where there is protected or critical habitat for threatened or endangered species.

5.3 ANALYSIS OF CUMULATIVE IMPACTS

Impacts to Landforms

Due to avoidance measures, the proposed action will have minimal to no impact on dunes and other beach structures. Nearby shoreline restoration, dune construction, and other restoration activities will have primarily beneficial impacts to sustaining beach ecological communities and mission activities.

Impacts to Air Quality

Cumulative effects to air quality are not anticipated for the Proposed Action and other relevant past and present actions. Related actions may result in emissions from road repair including dust and combustive emissions, and from rebuilding/relocation of facilities occurring over a period of several years. Heavy machinery used in the construction of bulkheads and seawalls would produce combustive emissions. Temporal overlap of the proposed action with related activities will not occur and a cumulative exceedence of established air quality impact thresholds is highly unlikely.

Impacts Related to Noise

Cumulative noise impacts are not anticipated. Road and culvert repair would generate noise from construction equipment but the impacts would not be significant; the noise would be minor. Additionally, no humans or protected species resources off of SRI would be exposed. The location of the road is far removed from sensitive species areas, including turtle nesting beaches. Land mass restoration would not have significant noise impacts to people or wildlife, including protected species. Seawall and bulkhead construction would result in noise from heavy machinery including vehicles, generators and pile drivers. Training noise would be addressed on a case by case basis. The Air Force would consult as necessary with the appropriate federal agencies to minimize impacts to protected species. Because the fireworks display would occur on a federal holiday, there will be no construction or training activity occurring on that day, so there would be no combined noise effects with other activities described here.

Cumulative Impacts

Impacts to Biological Resources

Terrestrial Biological Resources

Localized loss of habitat or direct impacts to species can have a cumulative impact when viewed on a regional scale if that loss or impact is compounded by other events with the same end result. Beach restoration projects may have cumulative impacts on sea turtle nesting and hatching success due to the potential short-term degradation of nesting habitat, and potential harassment and direct physical impacts from equipment operations on the beaches. Road and culvert repairs could affect the Florida perforate lichen, a protected species. Construction contractors would be required to stay out of areas where this species is found. Relocation of facilities has the potential to affect shorebirds and other wildlife, though cumulative effects are unlikely. Military training activities that occur during sea turtle season may also add to potential impacts to sea turtles from harassment, direct physical impact, and habitat alteration. The Air Force anticipates long-term positive cumulative impacts for sea turtle nesting habitat, beach habitats, and dune habitats from land mass restoration activities. Seawall and bulkhead construction would disturb wildlife. There may be short-term increases in disturbance from equipment and people to piping plovers, shorebirds, and Santa Rosa beach mice from road repairs, military training, and adjacent land mass restoration projects, but the Air Force does not anticipate any cumulative impacts. Dune restoration and road repair projects may have cumulative impacts to piping plover critical habitat due to a potential reduction in washovers. A study is currently underway to determine whether these impacts exist.

Marine Biological Resources

The Proposed Action would not have significant cumulative impacts in conjunction with other past and present actions. The primary potential for cumulative impacts is from the simultaneous conduct of dredging and shoreline restoration activities at adjacent counties with future land mass restoration activities. Because shoreline restoration can remove or eradicate many species within the surf zone and beach face, the combined effect from multiple projects could deprive dredging of sand in offshore areas will eventually deplete optimal sand, and the associated benthic organisms. Repetitive dredging and shoreline restoration events that occur on an annual basis would not allow for adequate recovery of benthos from borrow sites and surf zone organisms from restored shoreline areas. Military missions would potentially have minor cumulative effects but these would be brief in duration with the most intense use confined to a relatively small area (e.g., crossover points). Finally, there are potential cumulative risks for sea turtles and Gulf sturgeon from dredge entrainment. To offset these risks, the National Oceanic and Atmospheric Administration (NOAA) Fisheries has established sea turtle and Gulf sturgeon take limits for all dredging operations within the Mobile District of the Gulf of Mexico (which includes the project area). Once these limits are reached, dredging operations will cease and consultation between the USACE and NOAA Fisheries will resume to re-evaluate the potential for impact to these protected species.

Impacts to Safety

The Air Force has not identified any adverse impacts associated with safety as a result of the implementation of the Proposed Action under any of the alternatives. Consequently, the Proposed Action would not contribute to any cumulative impacts associated with safety.

Impacts to Socioeconomics

Potential adverse impacts associated with the Proposed Action are anticipated to be minimal and would be primarily related to short-term traffic congestion. Some slight benefit to the economy would be realized from the fireworks display as well as construction actions occurring in the vicinity. Rebuilding and relocation of facilities would probably occur too far in the future to have any cumulative socioeconomic impact with other construction-related actions described in this document.

6 MANAGEMENT REQUIREMENTS

This section lists management requirements or practices that the Air Force would implement as part of the Proposed Action or Alternative A. An informal Section 7 Consultation has been conducted and the U.S. Fish and Wildlife Service (USFWS) has provided a written concurrence that the proposed action is not likely to adversely affect sensitive species or habitat due to avoidance and minimization measures described in Chapter 2 and below. The Biological Assessment (BA) provided to the USFWS as part of the informal consultation is attached in Appendix B.

6.1 BIOLOGICAL RESOURCES

The City of Destin would implement these avoidance and minimization measures to avoid impact to protected species and their habitat:

- No equipment or personnel would be on the beach until after the daily sea turtle survey is completed.
- Access routes for equipment transport would be identified by Eglin Natural Resources Section prior to the movement of any equipment.
- Preliminary trash cleanup of the parking areas and public access points would be conducted by a contractor approved by the City of Destin.
- Staff would be briefed to use minimal to no light on the beach due to sea turtle concerns.
- Prior to any activity occurring, Natural Resource personnel would mark all sensitive areas so that they can be avoided by event staff as well as the public.
- Additionally, the City of Destin would coordinate a briefing of all pertinent parties prior to the event. Eglin Natural Resources Section (NRS) personnel would brief event staff and security personnel on the type and location of sensitive biological resources in the area.
- A minimum of fifteen security personnel would be onsite from approximately 1900 hours and throughout the event. Security personnel would ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat. At least four of the security personnel, one per access point, would be uniformed police officers who are enabled to enforce violations of the laws of the State of Florida. The remaining security personnel, easily identifiable as such by their security uniforms, would serve in a support role and would have constant radio contact with the uniformed officers. Additionally, security staff would have contact with Natural Resource Staff in the event that they need support in protecting sensitive species/habitat.
- The City of Destin would be responsible for the cleanup effort the following day of the fireworks show. This cleanup would include all parking areas, public access points, and the beach area (between the dunes and the shoreline) from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles). The City of Destin would designate a contractor to clean the parking areas and public access points as well as provide beach-cleaning machinery. Machinery would not be moved onto the beach until Eglin NRS personnel complete a daily sea turtle nesting survey and all cleanup activities would be supervised by Natural Resource Staff to ensure impacts to sensitive areas are avoided.

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8 LIST OF PREPARERS AND PERSONS CONTACTED

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Appendix A
Coastal Zone Management Act Negative Determination

FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA)
NEGATIVE DETERMINATION

Introduction

This document provides the State of Florida with the U.S. Air Force's Negative Determination under Section 307 of the Coastal Zone Management Act (CZMA), 16 U.S.C. § 1456, and 15 C.F.R. Part 930.35. The information in this Negative Determination is provided pursuant to 15 C.F.R. Section 930.35.

This negative determination addresses the Proposed Action for the Destin Fireworks Five Year License, Santa Rosa Island (SRI), Eglin Air Force Base (AFB), Florida (Figure 1).

Proposed Federal agency action:

The Proposed Action is to grant a five year license (2008–2012) for the City of Destin to conduct Fourth of July Fireworks Displays. The pyrotechnic display would commence at 2100 hours and would continue for twenty minutes on the evening of July 4th. Beginning on July 1, non-explosive equipment would be unloaded at the Community Beach Center. Four crew members from Pyro Shows Incorporated (PSI) would then transport the non-explosive equipment to the launch site area (100 ft x 100 ft). On July 3, explosives for the fireworks display would be delivered and setup would be completed by nightfall. The pyrotechnics in the display would consist of shells and a low level presentation comprised of barrage boxes (Tables 1 and 2). Security personnel would remain on-site to protect the fireworks display. Immediately following the fireworks show, PSI employees would search the area for duds and remove all weather sensitive equipment, such as electric firing boards, electric cable, and junction boxes. On July 5, PSI employees would transport all equipment from the launch site to the Community Beach Center, where it would then be removed.

The City of Destin would implement these avoidance and minimization measures to avoid impact to protected species and their habitat:

- No equipment or personnel would be on the beach until after the daily sea turtle survey is completed.
- Access routes for equipment transport would be identified by Eglin Natural Resources Section prior to the movement of any equipment.
- Preliminary trash cleanup of the parking areas and public access points would be conducted by a contractor approved by the City of Destin.
- Staff would be briefed to use minimal to no light on the beach due to sea turtle concerns.
- Prior to any activity occurring, Natural Resource personnel would mark all sensitive areas so that they can be avoided by event staff as well as the public.

- Additionally, the City of Destin would coordinate a briefing of all pertinent parties prior to the event. Eglin Natural Resources Section (NRS) personnel would brief event staff and security personnel on the type and location of sensitive biological resources in the area.
- A minimum of fifteen security personnel would be onsite from approximately 1900 hours and throughout the event. Security personnel would ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat. At least four of the security personnel, one per access point, would be uniformed police officers who are enabled to enforce violations of the laws of the State of Florida. The remaining security personnel, easily identifiable as such by their security uniforms, would serve in a support role and would have constant radio contact with the uniformed officers. Additionally, security staff would have contact with Natural Resource Staff in the event that they need support in protecting sensitive species/habitat.
- The City of Destin would be responsible for the cleanup effort the following day of the fireworks show. This cleanup would include all parking areas, public access points, and the beach area (between the dunes and the shoreline) from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles). The City of Destin would designate a contractor to clean the parking areas and public access points as well as provide beach-cleaning machinery. Machinery would not be moved onto the beach until Eglin NRS personnel complete a daily sea turtle nesting survey and all cleanup activities would be supervised by Natural Resource Staff to ensure impacts to sensitive areas are avoided.

Table 1. Shell Count for Proposed Fireworks Display

Shell Size	**Main Body**	**Finale**	**Total**
3”		250	250
4”	250	25	275
5”	200	20	220
6”	150	15	165
8”	20	4	24
10”	8	2	10
12”	2	0	2
Total Shell Count		**946**	

Table 2. Low Level Fireworks Presentation

5-200-Shot Barrage Boxes	1000
5-250-Shot Barrage Boxes	1250
5-150-Shot Barrage Boxes	750
Total Shot Count	**3,000**

Federal Review

After review of the Florida Coastal Management Program and its enforceable policies, the U.S. Air Force has made a determination that this activity would not have an effect on the state of Florida coastal zone or its resources.

Florida Coastal Management Program Consistency Review

Statute	Consistency	Scope
Chapter 161 *Beach and Shore Preservation*	The Proposed Action would not affect beach and shore management, specifically as it pertains to: • The Coastal Construction Permit Program. • The Coastal Construction Control Line (CCCL) Permit Program. • The Coastal Zone Protection Program.	Authorizes the Bureau of Beaches and Coastal Systems within DEP to regulate construction on or seaward of the states' beaches.
Chapter 163, Part II *Growth Policy; County and Municipal Planning; Land Development Regulation*	The Proposed Action would not affect local government comprehensive plans.	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.
Chapter 186 *State and Regional Planning*	The Proposed Action would not affect state plans for water use, land development or transportation.	Details state-level planning efforts. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 *Emergency Management*	The Proposed Action would not affect the state's vulnerability to natural disasters. The Proposed Action would not affect emergency response and evacuation procedures.	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters.
Chapter 253 *State Lands*	All activities would occur on federal property; therefore the Proposed Action would not affect state or public lands.	Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands.
Chapter 258 *State Parks and Preserves*	The Proposed Action would not affect state parks, recreational areas and aquatic preserves.	Addresses administration and management of state parks and preserves.
Chapter 259 *Land Acquisition for Conservation or Recreation*	The Proposed Action would not affect tourism and/or outdoor recreation.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands.
Chapter 260 *Recreational Trails System*	The Proposed Action would not include the acquisition of land and would not affect the Greenways and Trails Program.	Authorizes acquisition of land to create a recreational trails system and to facilitate management of the system.
Chapter 375 *Multipurpose Outdoor Recreation; Land Acquisition, Management, and Conservation*	The Proposed Action would not affect opportunities for recreation on state lands.	Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for

		additional recreational opportunities, and propose means to meet the identified needs.
Chapter 267 *Historical Resources*	The Proposed Action would not affect the cultural resources of the state.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 *Commercial Development and Capital Improvements*	The Proposed Action would not affect future business opportunities on state lands, or the promotion of tourism in the region.	Provides the framework for promoting and developing the general business, trade, and tourism components of the state economy.
Chapter 334 *Transportation Administration*	The Proposed Action would not affect transportation.	Addresses the state's policy concerning transportation administration.
Chapter 339 *Transportation Finance and Planning*	The Proposed Action would not affect the finance and planning needs of the state's transportation system.	Addresses the finance and planning needs of the state's transportation system.
Chapter 370 *Saltwater Fisheries*	The Proposed Action would not affect saltwater fisheries.	Addresses management and protection of the state's saltwater fisheries.
Chapter 372 *Wildlife*	In accordance with Section 7 of the Endangered Species Act (ESA), consultation with the U.S. Fish and Wildlife Service (USFWS) would be completed prior to project initiation (Figure 2). 96th CEG/CEVSN, Natural Resources Section would ensure that all activities proposed in and around threatened and endangered species would be performed in accordance with applicable USFWS guidelines. All mitigation measures resulting from the Section 7 consultation would be followed. Therefore, the Proposed Action would be consistent with the State's policies concerning the protection of wildlife and other natural resources.	Addresses the management of the wildlife resources of the state.
Chapter 373 *Water Resources*	The Proposed Action would not affect water resources.	Addresses the state's policy concerning water resources.
Chapter 376 *Pollutant Discharge Prevention and Removal*	The Proposed Action would not affect the transfer, storage, or transportation of pollutants.	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.
Chapter 377 *Energy Resources*	The Proposed Action would not affect energy resource production, including oil and gas, and/or the transportation of oil and gas.	Addresses regulation, planning, and development of oil and gas resources of the state.

Chapter 380 *Land and Water Management*	The Proposed Action would not affect development of state lands with regional (i.e. more than one county) impacts. The Proposed Action would not include changes to coastal infrastructure such as capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, designing or construction.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 *Public Health, General Provisions*	The Proposed Action would not affect the state's policy concerning the public health system.	Establishes public policy concerning the state's public health system.
Chapter 388 *Mosquito Control*	The Proposed Action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.
Chapter 403 *Environmental Control*	The Proposed Action would not affect water quality, air quality, pollution control, solid waste management, or other environmental control efforts.	Establishes public policy concerning environmental control in the state.
Chapter 582 *Soil and Water Conservation*	The Proposed Action would not affect soil and water conservation efforts.	Provides for the control and prevention of soil erosion.

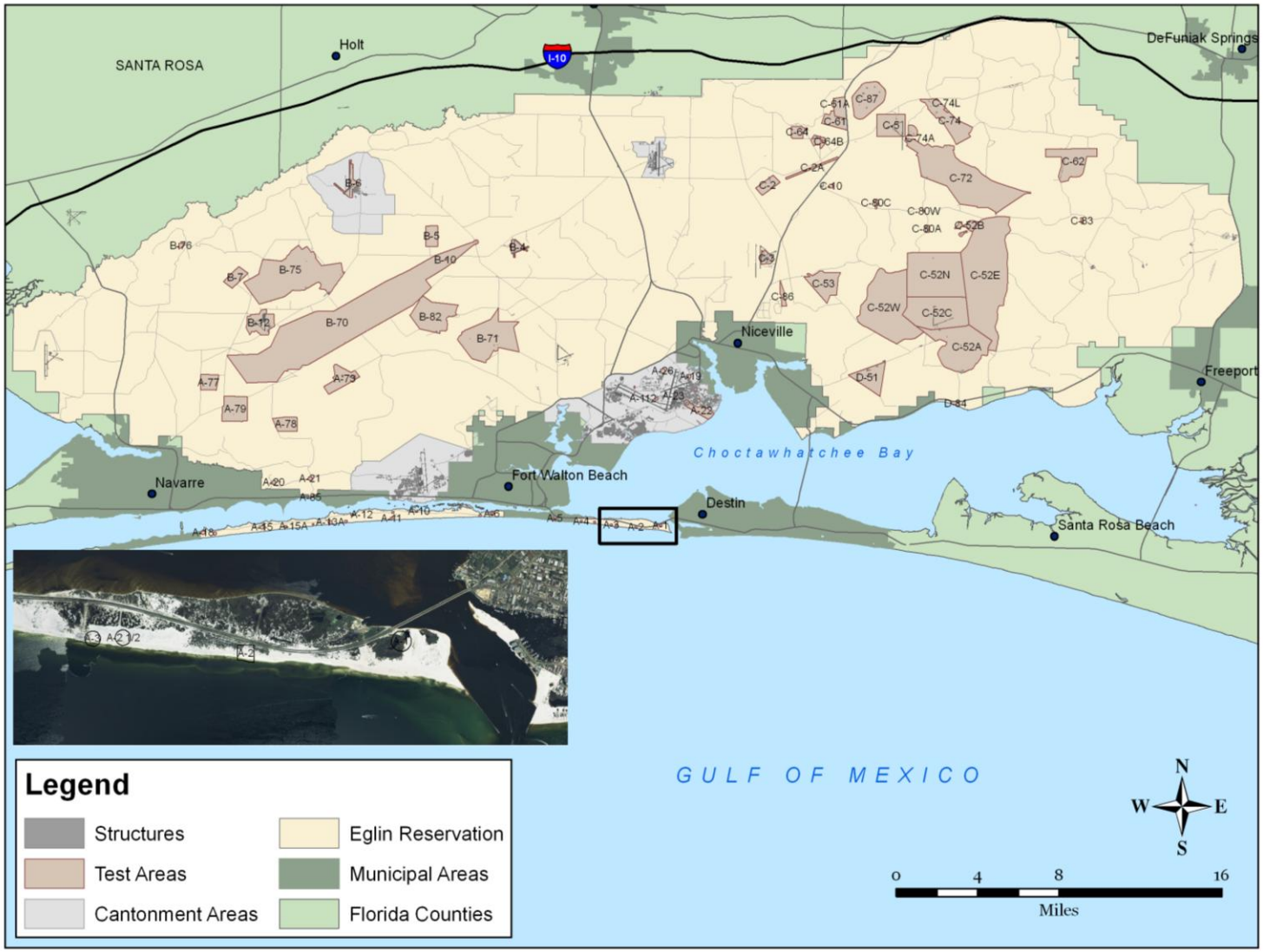

Figure 1 – Location of Project Area on Eglin AFB

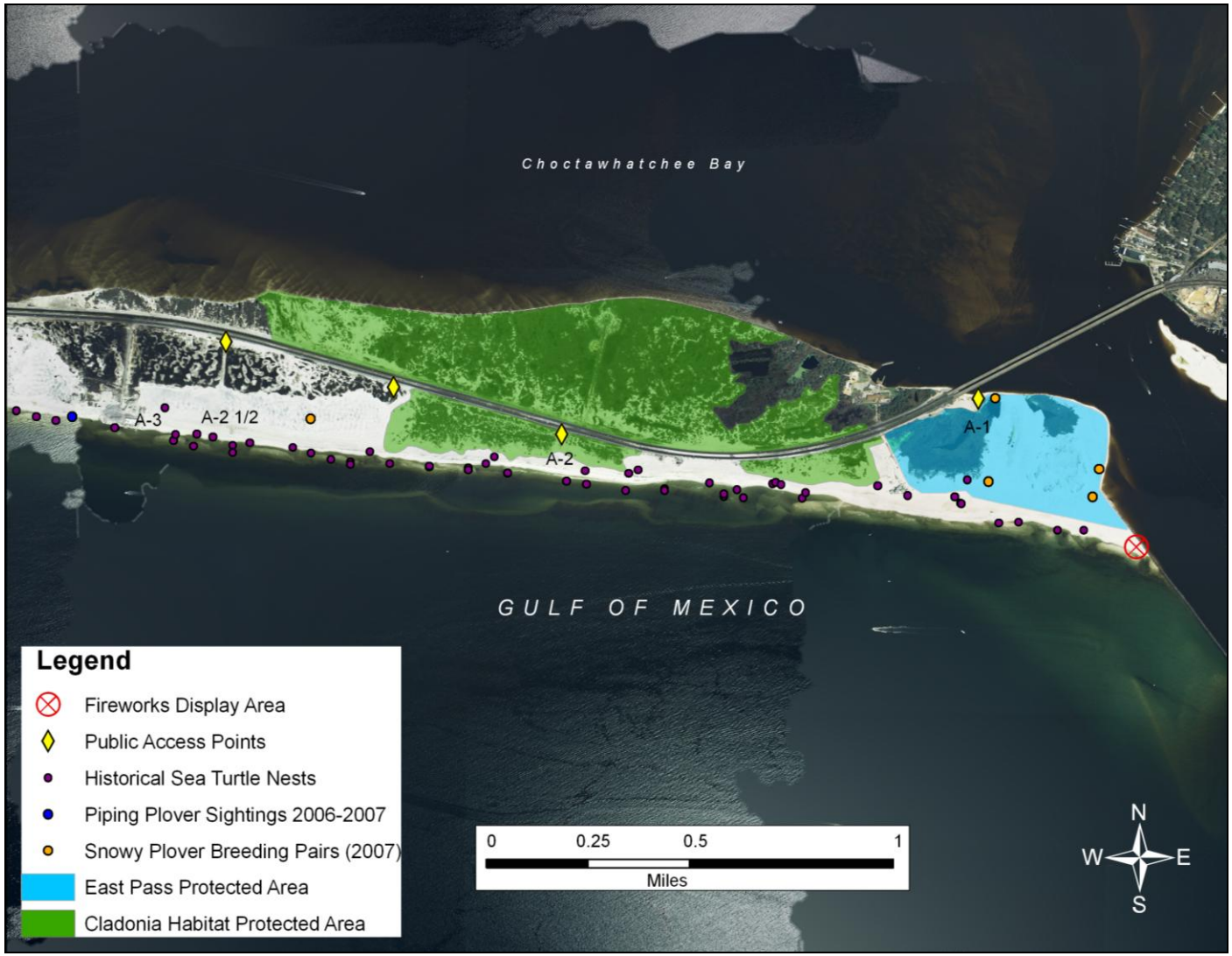

Figure 2 – Protected Species Located Near Firework Display Area

Avery Chadwick R CIV USAF 96 CEG/CEVSP

From: Milligan, Lauren [Lauren.Milligan@dep.state.fl.us]
Sent: Wednesday, April 30, 2008 12:56 PM
To: Avery Chadwick R CIV USAF 96 CEG/CEVSP
Cc: Rowland Randall CIV USAF 96 CEG/CEV; Miller Bob CIV USAF 96 CEG/CEVSNW
Subject: RE: Environmental Assessment for Destin 4th of July Fireworks and Beach Cleanup

Mr. Chadwick Avery
Environmental Analyst
Eglin AFB - 96 CEG/CEVSP
107 Highway 85 North
Niceville, FL 32578

RE: Department of the Air Force - Negative Determination - Environmental Assessment for City of Destin 4th of July Fireworks Displays and Beach Cleanup on Santa Rosa Island, Eglin Air Force Base - Okaloosa County, Florida.
SAI # FL200804304195

Dear Chadwick:

The Florida State Clearinghouse is in receipt of the referenced Environmental Assessment detailing the U.S. Air Force's proposal to grant a five-year license to the City of Destin to conduct July 4th fireworks displays, allow public access and perform cleanup activities at East Pass on Santa Rosa Island, Eglin Air Force Base. Department staff does not object to the Air Force's negative determination and agrees that the proposed action meets the requirements of 15 CFR 930.35.

Please continue to coordinate with the U.S. Fish and Wildlife Service regarding the on-going sea turtle nest survey activities and Avoidance and Minimization measures set forth in the Biological Assessment.

Thank you for the opportunity to review this proposal. If you have any questions or need further assistance, please contact me at (850) 245-2170.

Sincerely,

Lauren P. Milligan, Environmental Manager Florida State Clearinghouse Florida Department of Environmental Protection 3900 Commonwealth Blvd, M.S. 47 Tallahassee, FL 32399-3000 ph. (850) 245-2170 fax (850) 245-2190

The Department of Environmental

Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and

improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of

service you received. Copy the url below to a web browser to complete the DEP

survey: http://survey.dep.state.fl.us/?refemail=Lauren.Milligan@dep.state.fl.us Thank you in advance for completing the survey.

From: Avery Chadwick R CIV USAF 96 CEG/CEVSP [mailto:chadwick.avery@eglin.af.mil]
Sent: Friday, April 25, 2008 9:46 AM
To: Milligan, Lauren
Cc: Rowland Randall CIV USAF 96 CEG/CEV
Subject: Environmental Assessment for Destin 4th of July Fireworks and Beach Cleanup

As promised, please find the Environmental Assessment attached. Thank you.

Chadwick Avery
Environmental Analyst
96 CEG/CEVSP, Eglin AFB
Office: 850-882-3324
DSN: 872-3324
chadwick.avery@eglin.af.mil

Appendix B
Biological Assessment

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 96TH AIR BASE WING (AFMC)
EGLIN AIR FORCE BASE FLORIDA

APR 28 2008

Mr. Stephen M. Seiber
Chief, Natural Resources Section
96 CEG/CEVSN
501 De Leon Street, Suite 101
Eglin AFB FL 32542-5133

Ms. Janet Mizzi
U.S. Fish and Wildlife Service
1601 Balboa Avenue
Panama City FL 32405

Dear Ms. Mizzi,

The following information is being submitted to fulfill requirements under Section 7 of the Endangered Species Act (ESA). This Biological Assessment addresses the potential impact to federally-protected species from the Destin Fireworks Five Year License on Santa Rosa Island (SRI) on Eglin Air Force Base (AFB) (Figure 1). The analysis pertains to potential impact to sea turtles (*Chelonia mydas, Caretta caretta, and Dermochelys coriacea),* Florida perforate lichen (*Cladonia perforata*), piping plover (*Charadrius melodus*) and piping plover critical habitat. Other species evaluated include the Santa Rosa beach mouse and several nesting shorebirds.

Description of Proposed Action

The Proposed Action is to grant a five year license (2008–2012) for the City of Destin to conduct Fourth of July Fireworks Displays. The pyrotechnic display would commence at 2100 hours and would continue for twenty minutes on the evening of July 4th. Beginning on July 1, non-explosive equipment would be unloaded at the Community Beach Center. Four crew members from Pyro Shows Incorporated (PSI) would then transport the non-explosive equipment to the launch site area (100 ft x 100 ft). On July 3, explosives for the fireworks display would be delivered and setup would be completed by nightfall. The pyrotechnics in the display would consist of shells and a low level presentation comprised of barrage boxes (Tables 1 and 2). Security personnel would remain on-site to protect the fireworks display. Immediately following the fireworks show, PSI employees would search the area for duds and remove all weather sensitive equipment, such as electric firing boards, electric cable, and junction boxes. On July 5, PSI employees would transport all equipment from the launch site to the Community Beach Center, where it would then be removed.

The City of Destin would implement these avoidance and minimization measures to avoid impact to protected species and their habitat:

- No equipment or personnel would be on the beach until after the daily sea turtle survey is completed.
- Access routes for equipment transport would be identified by Eglin Natural Resources Section prior to the movement of any equipment.
- Preliminary trash cleanup of the parking areas and public access points would be conducted by a contractor approved by the City of Destin.
- Staff would be briefed to use minimal to no light on the beach due to sea turtle concerns.
- Prior to any activity occurring, Natural Resource personnel would mark all sensitive areas so that they can be avoided by event staff as well as the public.
- Additionally, the City of Destin would coordinate a briefing of all pertinent parties prior to the event. Eglin Natural Resources Section (NRS) personnel would brief event staff and security personnel on the type and location of sensitive biological resources in the area.
- A minimum of fifteen security personnel would be onsite from approximately 1900 hours and throughout the event. Security personnel would ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat. At least four of the security personnel, one per access point, would be uniformed police officers who are enabled to enforce violations of the laws of the State of Florida. The remaining security personnel, easily identifiable as such by their security uniforms, would serve in a support role and would have constant radio contact with the uniformed officers. Additionally, security staff would have contact with Natural Resource Staff in the event that they need support in protecting sensitive species/habitat.
- The City of Destin would be responsible for the cleanup effort the following day of the fireworks show. This cleanup would include all parking areas, public access points, and the beach area (between the dunes and the shoreline) from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles). The City of Destin would designate a contractor to clean the parking areas and public access points as well as provide beach-cleaning machinery. Machinery would not be moved onto the beach until Eglin NRS personnel complete a daily sea turtle nesting survey and all cleanup activities would be supervised by Natural Resource Staff to ensure impacts to sensitive areas are avoided.

Table 1. Shell Count for Proposed Fireworks Display

Shell Size	**Main Body**	**Finale**	**Total**
3”		250	250
4”	250	25	275
5”	200	20	220
6”	150	15	165
8”	20	4	24
10”	8	2	10
12”	2	0	2
Total Shell Count		**946**	

Table 2. Low Level Fireworks Presentation

5-200-Shot Barrage Boxes	1000
5-250-Shot Barrage Boxes	1250
5-150-Shot Barrage Boxes	750
Total Shot Count	**3,000**

Biological Information

Numerous terrestrial and aquatic species permanently or seasonally inhabit Eglin's SRI property. Among them, five federally protected species are known to occur in proximity to the proposed project area. The following list indicates those federally listed species considered for this action:

Common Name	Scientific Name	Federal Status
Atlantic Green Sea Turtle	*Chelonia mydas*	Endangered
Atlantic Loggerhead Sea Turtle	*Caretta caretta*	Threatened
Leatherback Sea Turtle	*Dermochelys coriacea*	Endangered
Piping plover	*Charadrius melodus*	Threatened
Florida perforate lichen	*Cladonia perforata*	Endangered

These protected species are also considered:

Common Name	Scientific Name
Santa Rosa beach mouse	*Peromyscus polionotus leucocephalus*

Shorebirds and Wading Birds

Common Name	Scientific Name	State Status
Snowy plover	C*haradrius alexandrinus*	Threatened
Least tern	*Sterna antillarum*	Threatened
Little blue heron	*Egretta caerulea*	Species of Special Concern
Tricolor heron	*Egretta tricolor*	Species of Special Concern
Snowy egret	*Egretta thula*	Species of Special Concern
White ibis	*Eudocimus albus*	Species of Special Concern
American oystercatcher	*Haematopus palliates*	Species of Special Concern
Black skimmer	*Rhynchopsniger*	Species of Special Concern
Great egret	*Ardea alba*	FNAI-Tracked Species
Wilson's plover	*Charadrius wilsonia*	FNAI-Tracked Species
Caspian tern	*Sterna caspia*	FNAI-Tracked Species
Royal tern	*Sterna maxima*	FNAI-Tracked Species
Sandwich tern	*Sterna sandvicensis*	FNAI-Tracked Species

Atlantic Loggerhead Sea Turtle

The loggerhead turtle (*Caretta caretta*), federally and state listed as threatened, gained its status on 28 July 1978. Loggerhead nests in Florida account for 90 percent of all loggerhead nests in the United States. From March through June, adult loggerheads congregate in the nearshore and offshore waters of the Gulf of Mexico to mate. Their nesting sites are on the numerous barrier islands and beaches between the Florida Keys and the northern Gulf of Mexico. Nesting females approach SRI in the spring and summer to dig their nests between the high tide mark and the dune line and occasionally between dunes. These turtles are the most commonly seen sea turtles in the southeastern United States and may be found near underwater structures and reefs (USAF, 2005a).

Atlantic Green Sea Turtle

The green sea turtle (*Chelonia mydas*) was listed as federally threatened on 28 July 1978, in all its eastern range of North America, except in Florida where it is listed as endangered. The state also lists it as endangered. In the United States, it nests on southern Florida beaches with a few exceptions in the northern Gulf of Mexico and North Carolina. The officially recognized nesting and hatching season for the green sea turtle extends from 1 May through 31 October in Florida's panhandle. Green sea turtles have nested on SRI every other year from 1990 to 2002. However, in 2003 there were four green sea turtle nests, in 2004 there were none, in 2005 there were seven, six in 2006 and seven in 2007, possibly indicating a new trend. The green sea turtle's incubation period ranges from 60 to 90 days. Eglin AFB SRI property supports the highest number of green sea turtle nests in northwest Florida.

Leatherback Sea Turtle

The leatherback sea turtle (*Dermochelys coriacea*) was originally listed as federally endangered on 2 June 1970, and is considered a state endangered species also. This species commonly nests along the shorelines of the Atlantic, Pacific, and Indian Oceans. Only infrequent nesting activity has been documented for the leatherback in northwest Florida (LeBuff, 1976; FWC FMRI, unpublished data; Longieliere et al., 1997). The officially recognized nesting and hatching season for the leatherback extends from 1 March through 30 September, with nest incubation ranging from 60 to 75 days (FWC FMRI unpublished data; Longieliere et al., 1997; FWC FMRI, 1998). Until the spring of 2000, the only confirmed leatherback nests in northwest Florida were in Franklin and Gulf counties. In May and June 2000, leatherback nesting activity was documented for the first time in Okaloosa County on Eglin's portion of SRI (Miller, 2001).

Piping Plover

The piping plover (*Charadrius melodus*) is listed as "threatened" by both the State of Florida and federally. Piping plovers are commonly documented during winter in the Florida panhandle, with the highest numbers of birds occurring in Franklin, Gulf, and Bay counties. Even though Florida has not been considered a primary wintering area for piping plover, diminishing habitat along other Gulf coast areas may be affording the piping plover new wintering grounds in Florida. These wintering grounds are still considered less suitable, thus forcing the piping plover to utilize isolated patches. As a result, critical habitat has been designated for piping plovers along the Gulf coast of Florida, a portion of which covers SRI.

Piping plovers are found in non-breeding (migration and wintering) habitats along the Gulf of Mexico as early as mid-July and leave by mid-May. Piping plovers are known to forage in exposed wet sand areas such as wash zones, intertidal ocean beachfronts, wrack lines, washover passes, mud and sand flats, ephemeral ponds, and salt marshes. They are also known to use adjacent areas for sheltering in dunes, debris, and sparse vegetation. Although it is possible that plovers could use any one of these habitat types at any time during the non-breeding season, studies have shown that non-breeding plovers spend 76 percent of their time foraging for invertebrates found just below the surface of wet sand (Johnson and Baldassarre, 1988).

Prior to 2006, Eglin NRS staff and volunteers conducted periodic surveys during the non-breeding season and volunteer personnel have periodically conducted shorebird surveys on SRI during the non-breeding season. These surveys included participation in the International Piping Plover Census in January of 1991, 1996, 2001, and 2006. Piping plovers were not sighted on Eglin's SRI property during any of these official surveys. Beginning in 2006, Eglin NRS has conducted routine shorebird monitoring throughout the year according to piping and snowy plover winter survey guidelines provided by the U.S. Fish and Wildlife Service (USFWS). These guidelines combine the survey protocol from the International Piping Plover Census and the International Shorebirds Survey (USFWS, 2005).

Piping Plover Critical Habitat

Wintering critical habitat for non-breeding piping plovers was designated on 10 July 2001 (Federal Register, 2001). "Critical habitat" is a term that refers to specific geographic areas that contain the essential habitat features necessary for the conservation of threatened and/or endangered species. Critical habitat areas may require special protection or management considerations for current populations as well as potential population increases necessary to achieve species recovery. The boundaries of critical habitat are subject to change due to the changing morphology of the shoreline at SRI.

According to the USFWS ruling, the primary constituent elements for piping plover non-breeding habitat are those components essential for foraging, sheltering and roosting, and the physical features necessary for maintaining the natural processes that support these habitat components. These elements are found in coastal areas that support intertidal beaches and flats and associated dune systems and flats above annual high tide. On SRI, critical habitat is located on the north shore, near Test Site A-18 in the westernmost portion of Eglin's property. Critical habitat at this site includes land from Mean Low Water line to where densely vegetated habitat, not used by the piping plover, begins and where the constituent elements no longer occur (Federal Register, 2001). To protect the site, Eglin NRS maintains posted signs and barriers to discourage foot traffic and AF operational activities within the critical habitat area. Areas used by piping plovers are ephemeral habitats that change over time, so when surveys document new locations being used, these areas will be given the same protection afforded the piping plover critical habitat units already established.

The USFWS has identified several activities that may potentially have adverse impacts on piping plover critical habitat. Such activities may include dredging and dredge spoil placement; seismic exploration; construction and installation of facilities, pipelines, and roads associated with oil and gas development, oil spills, and oil spill cleanup; construction of dwellings, roads,

marinas, and other structures; staging of equipment and materials; beach nourishment, stabilizations, and cleaning; all-terrain vehicular activity; storm water and wastewater discharge; sale, exchange, or lease of federal land that contains suitable habitat that is likely to result in the habitat being degraded; marsh restoration; and military maneuvers (USFWS, 2007).

Florida Perforate Lichen

Florida perforate lichen (*Cladonia perforata*) is federally listed as "endangered" and has a very restricted population, attributable primarily to a significant loss of its historic habitat. The lichen is endemic to Florida's white sand scrub habitat dominated by sand pine, rosemary, and other scrub oaks such as sand oak, live oak and myrtle oak. It typically occurs in open areas between patches of scrub vegetation. In addition to habitat loss, it is also threatened by trampling/human disturbance, storm surge overwash, and is susceptible to fires (USFWS, 1999).

There are three historic populations on Eglin AFB. In 1995, Hurricane Opal destroyed two of these populations and reduced the remaining one by more than seventy percent (Yahr, 2001). This reduced population persists just west of the Destin Pass on the public-access portion of SRI (Figure 2). In June 2000, two reintroduction populations were established in the areas of the lost populations, near Test Area A-10 on the north side of SRI. In 2003, as part of the conservation effort for this rare species, 200 thalli were transported to Bok Tower Sanctuary in Lake Wales, Florida, and established in a protected garden setting. However, these original thalli have died, and NRS is working to complete the permits required to re-establish another population there. If necessary, this "safe population" could serve for future reintroduction to SRI following catastrophic hurricane events.

In an attempt to protect the known populations, Eglin NRS maintains posted signs and barriers to discourage foot traffic and AF operational activities within the three historic habitat areas. Additionally, to discourage human disturbance and increase general awareness, informational signs are posted at public beach access points regarding the barrier island ecosystem and the species it supports.

Other Species Considered

Santa Rosa Beach Mouse

The Santa Rosa beach mouse (*Peromyscus polionotus leucocephalus*) is one of seven extant beach mouse subspecies, five of which inhabit the panhandle of Northwest Florida. Of the five Gulf subspecies, the Santa Rosa subspecies is the only one not currently listed by either the state or the federal government. Beach mice are mostly nocturnal, and burrow nests in dunes. They inhabit frontal dune and scrub habitat within the coastal dune ecosystem on SRI, preferring sand-covered slopes with patches of grasses and herbs, and their diet consists of seeds and fruits of beach plants, as well as insects (Bird, 2003). The Santa Rosa subspecies population, which occurs only on SRI, was decimated after the storm surge from Hurricane Opal in 1995 destroyed a significant amount of dune habitat. Beginning in 1996, track-count surveys conducted by Eglin NRS personnel indicated a forty percent increase in population from 1996 to 2001 (U.S. Air Force, 2002).

Hurricane Ivan in 2004, as well as hurricanes Dennis and Katrina in 2005, again decimated a large percentage of the dune habitat. Beginning in 2004, Eglin NRS increased survey frequency and began conducting monthly surveys to determine the severity of the impact to the population. Since then, preliminary results indicate that beach mice are still present, but additional data is required to determine the status of the current population. To supplement monthly track-count surveys, Eglin NRS has also incorporated the Florida Fish and Wildlife Conservation Commission (FWC) tracking tube survey protocol. Beginning in February of 2007, monthly tracking tube surveys now provide data regarding the presence/absence of beach mice in varied ecosystems on Eglin's restricted portion of SRI. This tracking tube method has been developed as a potential alternative to survey for presence/absence of the species. By maintaining both survey types, Eglin NRS hopes to provide comparative data regarding the subjectivity each method. In addition to these monthly surveys, Eglin also continues to support the USFWS annual beach mouse trapping and tagging efforts.

While the most devastating losses to beach mouse populations result from storm surges from hurricanes and tropical storms, other significant threats include predation by feral cats and loss of dune habitat from recreational foot traffic on public-access beaches. Eglin NRS is working to improve protection of dunes by promoting public awareness. These efforts include the installation of signs and barriers to discourage foot traffic in protected areas, the posting of educational signs at beach access locations on the public portion of SRI, and the dissemination of informational literature.

Shorebirds, Wading Birds and Shorebird Nesting Areas

Shorebird nesting season at SRI is approximately 15 March through 31 August. During this period, Eglin NRS conducts bimonthly shorebird surveys to collect data regarding the populations of the protected species. In 2007, the National Audubon Society conducted a shorebird nesting study for snowy plovers; twenty-nine nesting pairs were located. Although natural forces including hurricane activity continually change the landscape of SRI, Eglin NRS annually observes and documents areas that appear to be preferred by nesting shorebirds. In an attempt to designate and protect these areas, Eglin NRS posts signs to discourage foot traffic and Air Force operational activities.

Determination of Impacts

Sea Turtles

Obstructions from the Destin fireworks display may discourage female sea turtles from nesting on the beachfront during nesting season; however, the affected area is very small (Figure 2). Because Site A-1 is rarely used for turtle nesting (approximately one nest on an average annual basis), Eglin NRS does not anticipate any direct physical impacts to nesting or hatching turtles from the firework activities.

Setup, removal of the fireworks, and associated beach cleanup would not begin until after the morning sea turtle survey is complete and all nests are marked and protected in accordance with established NRS and state protocol. NRS biologists would install a series of stakes and highly visible survey ribbon to establish a radius surrounding the nest. If any ruts greater than three

inches on the beach occur from setup or removal of the fireworks display, the ruts would be filled in prior to sunset. If a nest occurs within the project area, the fireworks display location on the beach would be repositioned away from the nesting site at least fifty feet.

During the nighttime fireworks show minimal lighting for safety purposes would be needed. This lighting would be directed seaward at all times, light fixtures should consist of a single low-pressure sodium vapor bulb. All light fixtures would be fully shielded, with direct lighting visible only from immediately underneath the fixture.

Additional increase in public activity associated with the Destin fireworks could potentially impact species due to excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat. A preliminary trash cleanup of the parking areas and public access points would be conducted in anticipation of increased debris from the public. The City of Destin would be responsible for the cleanup effort the following day of the fireworks show. This cleanup would include all parking areas, public access points, and the beach area (between the dunes and the shoreline) from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles) after the morning sea turtle survey is complete.

To minimize impacts to sea turtles, the following avoidance and minimization measures would be required:

- All activity associated with the Destin fireworks would occur after the morning sea turtle survey has been completed.
- All known sea turtle nests would be marked and protected in accordance with established Eglin NRS protocol.
- All ruts deeper than three inches created during daytime operations would be filled in before sunset. Ruts may be filled in by hand using a heavy-duty “garden” rake that penetrates no more than three inches deep into the sand or by towing a section of weighted chain-link fence behind a vehicle. At no time shall raking be conducted within the marked nest areas.
- All equipment, except the fireworks display, would be removed from the work area before sundown and not left on the beach overnight.
- If a turtle crawl is seen on the beach with no associated marked nest, the Natural Resources staff or appropriate turtle monitoring personnel shall be contacted immediately. Care shall be taken not to disturb the crawl and/or nest site.
- No other equipment, vehicles, etc., would be allowed on the beach or dunes during fireworks activities that are not essential to the activity.
- If a nest occurs within 0.5 mile from the work area, a series of stakes and highly visible survey ribbon or string would be installed to establish a radius surrounding the nest. No activity would occur within this area, nor would any activity occur that could result in impacts to the nest. Nest sites would be inspected daily to ensure nest markers remain in place and that the nest has not been disturbed.
- All personnel involved in setup or performing the work would familiarize themselves with all requirements.

- No project participants would traverse dunes, vegetated or unvegetated, that are 1.5 m (5 ft) tall or taller.
- Security personnel would be onsite to ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat.

With these avoidance and minimization measures, Eglin NRS believes the Destin fireworks activities on SRI are **not likely to adversely affect** sea turtles.

Piping Plover

Research indicates that patterns of piping plover habitat usage can be very complex and plovers could feasibly use several locations on the island for foraging, roosting, or sheltering at any time, day or night (U.S. Air Force, 2007). The disturbance generated by setup and removal of the fireworks display as well as the fireworks show on the fourth of July, would be sufficient to keep piping plovers from foraging in the display area during the course of the operation. During this time, displaced plovers may simply move on to undisturbed foraging areas. Displacement would be temporary and localized.

Additional increase in public activity associated with the Destin fireworks could potentially impact species due to excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat. A preliminary trash cleanup of the parking areas and public access points would be conducted in anticipation of increased debris from the public. The City of Destin would be responsible for the cleanup effort the following day of the fireworks show. This cleanup would include all parking areas, public access points, and the beach area (between the dunes and the shoreline) from the base of the West Jetty to Test Area A-2 (a distance of approximately 2 miles) after the morning sea turtle survey is complete.

The following avoidance and minimization measures would be followed to minimize the potential for impacts to the piping plover resulting from Destin fireworks activities:

- Areas marked with “Endangered Species” signs would be avoided.
- Security personnel would be onsite to ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat.

With these avoidance and minimization measures, Eglin NRS believes the Destin fireworks activities on SRI are **not likely to adversely affect** piping plovers.

Piping Plover Critical Habitat

Piping plover critical habitat is situated on the north shore of SRI north of Test Site A-18. The critical habitat area has been marked with “Endangered Species” signs and is clearly visible.

Destin fireworks activities would not occur near this area, therefore the proposed activities are **not likely to adversely modify** designated piping plover critical habitat on SRI.

Florida Perforate Lichen

Potential exists for personnel or equipment to accidentally enter *Cladonia perforata* habitat during setup and removal of the fireworks display. *C. perforata* sites exist near the project area (Figure 2). Fireworks personnel would be instructed to stay out of marked habitat. These sites are fenced and marked with "Endangered Species – Do Not Enter" signs. Additional increase in public activity associated with the Destin fireworks could potentially impact species due to excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat.

Destin fireworks activities may occur near *C. perforata* areas, but Eglin NRS believes these activities are **not likely to adversely affect** the Florida perforate lichen on SRI. The following avoidance and minimization measures would be followed to minimize the potential for impacts to the perforate lichen resulting from fireworks activities:

- Locations of perforate lichen colonies would be fenced off and marked with "Endangered Species" signs.
- All activities would avoid known locations of the perforate lichen.
- Security personnel would be onsite to ensure that (a) the public utilizes only designated access points, (b) the public remains out of the dunes at all times, and (c) no person harasses in any way an endangered species or interferes with endangered species habitat.

Other Species Considered

Santa Rosa Beach Mouse

Destin fireworks activities on SRI would not significantly impact the Santa Rosa beach mouse. Additional increase in public activity associated with the Destin fireworks could potentially impact species due to excess debris and foot traffic. Security personnel would be onsite to ensure that the public utilizes only designated access points, the public remains out of the dunes at all times, and no person harasses in any way an endangered species or interferes with endangered species habitat. Potential for direct impacts to the Santa Rosa beach mouse from fireworks activities is low as dunes and dune systems would be avoided by personnel and associated equipment. This measure would greatly minimize impacts to dunes and dune vegetation as well as reduce potential impacts to beach mice and their burrows.

Shorebirds, Wading Birds and Shorebird Nesting Areas

Some shorebirds may be temporarily displaced as a result of noise from firework display activities. Colonies or individual nests of several state-listed shorebird species (least terns, southeastern snowy plovers, and black skimmers) are usually found along the wrack line or other suitable habitat along the beach and have the potential to occur within the proposed action area.

State listed wading birds such as the snowy egret, little blue heron, tri-colored heron, and white ibis, forage mainly in wetland areas or along shorelines of saltwater and freshwater water bodies. A breeding area for several wading bird species is documented to occur along the west shore of East Pass on SRI. Land-based activities near shorebird nesting areas may result in a flush/startle response. During nesting season, this may result in an increased vulnerability of eggs and chicks to predation. Foraging species would typically move on to other areas, while nesting species should return after the general disturbance was over. These activities would also likely scare other species such as predators (e.g. feral cats, coyotes, etc.) from the area, thus reducing the chances of nest predation should nesting birds be flushed.

To minimize the potential for impacts to shorebirds, the NRS would conduct a pre-work survey and a post-survey (the morning after the fireworks show) for nesting shorebirds. If nesting pairs are identified then a daily survey for five consecutive days would be conducted to see if the nests have been abandoned. Staging of firework equipment would be located outside all known shorebird nesting sites. With this avoidance and minimization measure in place, Eglin NRS has determined that the Destin fireworks activities would have minimal impact on shorebirds and their nesting areas. If shorebirds are located outside of the posted areas, that area would then be posted prior to fireworks activities and avoided.

Conclusion

Based on analysis of the potential impacts to federally protected species from the Destin Fireworks on SRI, Eglin NRS believes the proposed action is **not likely to adversely affect** sea turtles, piping plovers, and *Cladonia perforata* and **not likely to adversely modify** piping plover critical habitat. The Santa Rosa beach mouse and shorebirds are also considered and Eglin NRS believes there would be minimal impacts to these species. Avoidance and minimization measures would serve to mitigate potential impacts from firework activities.

The USFWS will be notified immediately if any of the actions considered in this proposed action are modified or if additional information on listed species becomes available, as a re-initiation of consultation may be required. If an impact to a listed species occurs beyond what has been considered in this assessment, all operations will cease and the Service will be notified. Additionally, if an injured or deceased shorebird is found as a direct result of the fireworks activities, Eglin NRS would contact the USFWS immediately. Any modifications or conditions resulting from consultation with the Service will be implemented prior to commencement of activities. The Eglin AFB NRS believes this fulfills all requirements of the ESA and no further action is necessary.

If you have any questions regarding this letter or any of the proposed activities, please do not hesitate to contact either Mr. Bob Miller (850) 883-1153 or myself at (850) 882-4164.

Sincerely,

STEPHEN M. SEIBER, YF-02
Chief, Natural Resources Section

Attachments:
Figure 1 – Location of Project Area on Eglin AFB
Figure 2 – Protected Species Located Near Firework Display Area

INFORMAL CONSULTATION REGARDING
IMPACTS TO FEDERALLY LISTED SPECIES
RESULTING FROM THE DESTIN FIREWORKS
ON SANTA ROSA ISLAND, EGLIN AFB, FL

Prepared by: _____ 4/23/08
Kelly Knight — Date
Environmental Scientist, SAIC
Eglin Natural Resources Section

Reviewed by: _____ 4/23/08
Bob Miller — Date
Endangered Species Biologist
Eglin Natural Resources Section

_____ 4/24/08
Bruce Hagedorn — Date
Endangered Species Biologist
Chief, Wildlife Element
Eglin Natural Resources Section

_____ 4/28/08
Stephen M. Seiber — Date
Chief, Eglin Natural Resources Section

USFWS CONCURRENCE:

_____ _____
Project Leader — Date
U.S. Fish and Wildlife Service
Panama City, FL

FWS Log No. _____

REFERENCES

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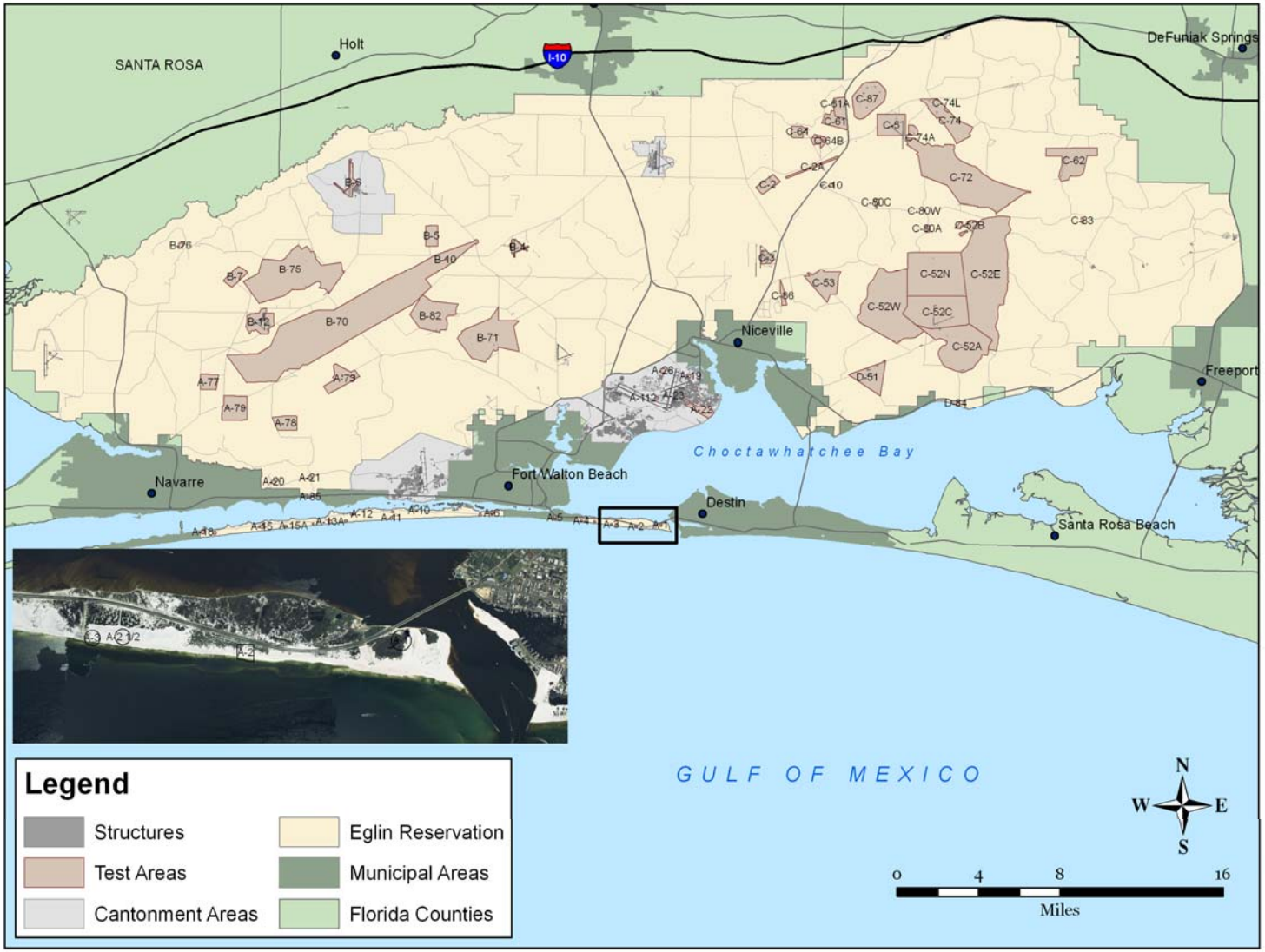

Figure 1 – Location of Project Area on Eglin AFB

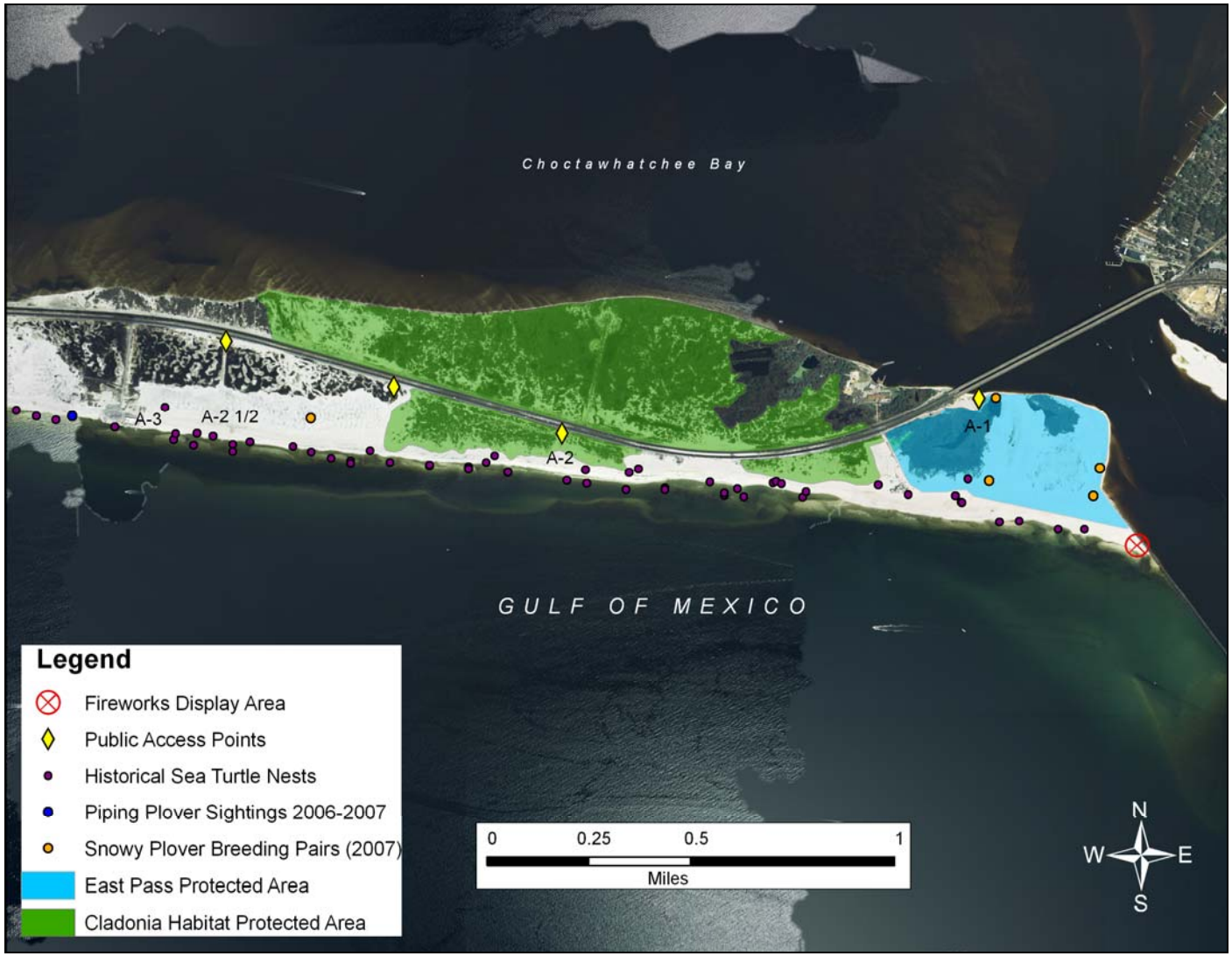

Figure 2 – Protected Species Located Near Firework Display Area

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Field Office
1601 Balboa Avenue
Panama City, FL 32405-3721

Tel: (850) 769-0552
Fax: (850) 763-2177

IN REPLY REFER TO:

June 3, 2008

Mr. Stephen M. Seiber
Chief, Natural Resources Section
96 CEG/CEVSN
501 De Leon Street, Suite 101
Eglin AFB, Florida 32542-5133

Re: FWS No. 2008-I-0027
Destin Fireworks Five-Year
License on Santa Rosa Island on
Eglin Air Force Base
Okaloosa County, Florida

Dear Mr. Seiber:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) receipt of your letter received by our office on April 30, 2008 requesting concurrence regarding federally endangered, threatened, or protected species on the project referenced above. This response is provided in accordance with provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-711).

Eglin AFB Natural Resources Section (NRS) staff propose issuance of a five-year license (2008-2012) to the City of Destin to conduct July Fourth firework displays on the far eastern portion of Santa Rosa Island (SRI) beginning at the Destin Pass West Jetty, to 2 miles west with impacts ending at Test Area A-2. Project impacts will mostly occur on the front beach area.

Activities associated with the license include the following:

1) Destin contractors (Pyro Shows Incorporated (PSI) will transport non-explosive equipment to the launch site area (100 ft x 100 ft) as early as July 1 of each year.
2) PSI will set up explosives for the fireworks display on July 3 of each year ending prior to nightfall.
3) Pyrotechnic displays would commence at 2100 hours and continue for twenty minutes on July 4 of each year.
4) Immediately following pyrotechnic displays on July 4, PSI employees will search the area for duds and remove all weather sensitive equipment.

5) PSI employees will remove all equipment from the launch site on July 5 of each year and finalize clean-up efforts to include all parking areas, public access points, and the beach area (between the dunes and shoreline) from the jetties to A-2. PSI employees may use beach cleaning machinery during post-cleanup efforts.

The biological assessment provided by Eglin's NRS staff propose avoidance and minimization measures to remove any adverse affects to federally protected species. Eglin's NRS staff determined that the project is not likely to adversely affect (NLAA) nesting sea turtles (*Chelonia mydas, Caretta caretta,* and *Dermochelys coriacea*), Florida perforate lichen (*Cladonia perforata*), piping plover (*Charadrius melodus*) and piping plover critical habitat.

The Service concurs that the avoidance and minimization measures sufficiently minimize any project impacts to a negligible level, and therefore concurs with a determination of may affect, but not likely to adversely affect, the above-mentioned species.

The MBTA implements various treaties and conventions between the U.S., Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under the provision of the MBTA, it is unlawful "by any means or manner to pursue, hunt, take, capture or kill any migratory bird except as permitted by regulations issued by the Fish and Wildlife Service. The term "take" is not defined in the MBTA, but the Service has defined it by regulation to mean to pursue, hunt, shoot, wound, kill, trap, capture, or collect any migratory bird, or any part, nest or egg of any migratory bird covered by the conventions or to attempt those activities.

Eglin's NRS staff have identified that nesting shorebirds, namely snowy plovers, least terns, and black skimmers, occur within the project area. It is believed that some shorebirds may be temporarily displaced as a result of noise from firework display activities. It is unknown if the impacts surmount to the level of "take." Eglin's NRS staff have committed to surveying and posting any nesting areas to prevent direct impacts from pedestrian foot traffic during the display event and its pre- set-up and post- clean-up activities. They also propose monitoring post project to document any impacts associated with the proposed project such that they might be avoided in the future.

While the MBTA has no provision for allowing an unauthorized take, we recognize that some birds may be impacted by activities even if all reasonable measures of avoidance are implemented. The Service's Division of Law Enforcement carries out its mission to protect migratory birds not only through investigations and enforcement, but also through fostering relationships with individuals and agencies that proactively seek to eliminate their impacts on migratory birds. While it is not possible under the MBTA to absolve individuals or companies from liability if they provide minimization measures, the Division of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals or agencies who have made good faith efforts to avoid the take of migratory birds.

Snowy plovers, least terns, and black skimmers are protected by Florida's Endangered Species Act. The Florida Fish and Wildlife Conservation Commission (FWC) has developed conditions/guidelines for shorebird protection. We recommended that your staff contact FWC to obtain a copy of these guidelines to further minimize project impacts to these species and to keep you in compliance with State law.

Thank you for giving us the opportunity to review this project. Should you have any questions concerning our comments or require technical assistance, please contact Ms. Patty Kelly of this office at extension 228.

Sincerely,

Janet Mizzi
Deputy Field Supervisor

cc:
John Himes, FWC, Non-game Program, PC, FL

PCFO P.Kelly:pk:kh:5-30-08: 850-769-0552/public server/patty/patty for Kathy/:MBTA/eglin fireworks 5-30-08.doc]

Appendix C
Public Comments

Public Notification

In compliance with the National Environmental Policy Act, Eglin Air Force Base announces the availability of a Draft Environmental Assessment and Finding of No Significant Impact for RCS 08-092, Destin 4th of July Fireworks and Beach Cleanup on Eglin Air Force Base, Florida, for public review and comment.

The Proposed Action of RCS 08-092, Destin 4th of July Fireworks and Beach Cleanup on Eglin AFB, Fla., would be for the City of Destin to obtain a five-year license to conduct fireworks displays and subsequent beach cleanups in celebration of the Independence Day holiday on Eglin AFB property. The fireworks displays would occur on July 4th on Okaloosa Island at the East Pass.

Your comments on this Draft EA are requested. Letters and other written or oral comments provided may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided, including private addresses, will be used only to identify your desire to make a statement during the public comment period or to compile a mailing list to fulfill requests for copies of the Final EA or associated documents. However, only the names and respective comments of respondent individuals will be disclosed: personal home addresses and phone numbers will not be published in the Final EA.

Copies of the Draft EA and Draft FONSI may be reviewed at the Fort Walton Beach Public Library, 105 SE Miracle Strip Parkway, Fort Walton Beach, Fla., and the Destin Library, 150 Sibert Avenue, Destin, Fla. Copies will be available for review from May 9 through May 23, 2008. Comments must be received by May 27, 2008.

For more information or to comment on these proposed actions, contact: Mike Spaits, 96th Civil Engineer Group Environmental Public Affairs, 501 De Leon Street, Suite 101, Eglin AFB, Florida 32542-5133 or email: spaitsm@eglin.af.mil. Tel: (850) 882-2878; Fax: (850) 882-3761

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Response to Comments for
Destin 4th of July Fireworks and Beach Cleanup on Eglin Air Force Base, Florida, Draft Environmental Assessment and Finding of No Significant Impact

A public notice was published in the *Northwest Florida Daily News* on May 9, 2008 to disclose completion of the Draft EA, selection of the preferred alternative, and request for comments during the 15-day pre-decisional comment period.

The 15-day comment period ended on May 23rd, with the comments required to this office not later than May 27, 2008. No comments were received during this period.

//Signed//
Mike Spaits
Public Information Manager